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A REASONED RESPONSE TO NIMBY OPPOSITION TO INCINERATION OF CHEMICAL WEAPON STOCKPILES

A Thesis

Presented To

The Judge Advocate General's School, United States Army

The opinions and conclusions expressed herein are those of the author and do not necessarily reflect the views of either The Judge Advocate General's School, The United States Army, or any other governmental agency.

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April 1993

A REASONED RESPONSE TO NIMBY OPPOSITION TO INCINERATION OF CHEMICAL WEAPON STOCKPILES

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ABSTRACT: An analysis of a dilemma faced by elected officials who face international responsibilities on one hand and obligations to constituents on the other. Diplomatic efforts to rid the world of chemical weapons culminated in January 1993 with the signing of a multilateral Chemical Weapons Convention. This treaty not only bans use, but also production or stockpiling and requires destruction of existing weapons. In 1985 the United States Congress established a program that mandates destruction of aging chemical stockpiles; however, plans to incinerate are opposed by classic "not in my backyard" arguments. This thesis suggests a reasoned response to move the program beyond the NIMBY stalemate.

A REASONED RESPONSE TO NIMBY OPPOSITION TO INCINERATION OF CHEMICAL WEAPON STOCKPILES

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A REASONED RESPONSE TO NIMBY OPPOSITION TO INCINERATION OF CHEMICAL WEAPON STOCKPILES

One government can collect and avail itself of the talents and experience of the ablest men, in whatever part of the Union they may be found. It can move on uniform principles of policy. It can harmonize, assimilate, and protect the several parts and members, and extend the benefit of its foresight and precautions to each. In the formation of treaties, it will regard the interest of the whole, and the particular interests of the parts as connected with that whole.

John Jay[1]

For the same reason that the members of the State legislatures will be unlikely to attach themselves sufficiently to national objects, the members of the federal legislature will be unlikely to attach themselves too much to local objects. The States will be to the latter what counties and towns are to the former. Measures will too often be decided according to their probable effect, not on the national prosperity and happiness, but on the prejudices, interests, and pursuits of the governments and peoples of the individual States.

James Madison[2]

I. INTRODUCTION

The world will be a safer place without chemical weapons. In mid-January 1993, the United States and more than 120 other nations agreed with that general proposition. In Paris, France, nations of the world assembled under the auspices of the United Nations and signed the Chemical Weapons Convention (CWC), an historic disarmament treaty intent on banning chemical weapons from the face of the earth.[3] As his term drew to a close, President George Bush, an ardent supporter of CWC negotiations, spoke of this new convention as being of vital interest in reducing the threat of weapons of mass destruction.[4] Yet in spite of the obvious good that should result from implementation of the new CWC, how the United States should destroy its chemical stockpiles remains unsettled--especially in the minds of those Americans who live near locations selected as disposal sites.[5] The political battle may be summarized as international responsibility versus obligations to the folks back home.

At the heart of this controversy is a debate as old as our system of government: whether the national government can compel local citizens to accept a program that is in the best interest of all Americans (and arguably the world), or whether local residents may stop such a program with cries of "not in my backyard" (NIMBY). This modern day application of federalism is further complicated by broad waivers of sovereign immunity within applicable federal environmental laws which serve to quash any good faith argument for federal preemption.

NIMBY opposition is understandable. The Army's preferred treatment method is incineration, currently planned to occur at eight installations in the continental United States: Aberdeen Proving Ground, Maryland; Anniston Army Depot, Alabama; Lexington-Bluegrass Army Depot, Kentucky; Newport Army Ammunition Plant, Indiana; Pine Bluff Arsenal, Arkansas; Pueblo Army Depot, Colorado; Tooele Army Depot, Utah; and Umatilla Army Depot Activity, Oregon.[6] Opponents insist that incineration poses unacceptable risks and that alternative technologies are available.[7] Incineration is controversial even without the enhanced public safety concerns related to the destruction of chemical weapons materiel.[8] Nevertheless, destruction of the stockpile is mandated by Congress.[9] Moreover, once the new CWC has been ratified and takes effect, international obligations imposed will force a resolution of the current stalemate between federal and local interests. Time will tell whether this dispute is settled through leadership or litigation.

The primary purpose of this paper is to consider reasonable measures to move beyond the current NIMBY stalemate; however, to better understand the context of this dilemma some historical matters are presented with respect to the origins of chemical warfare and international efforts to stop chemical warfare. Next, the origins and status of the U.S. Chemical Stockpile Disposal Program (CSDP) will be discussed. The focus then shifts to an examination of how four federal statutes are embroiled in the conflict between national and local interests: the National

Environmental Policy Act (NEPA), the Clean Air Act (CAA), the Resource Conservation and Recovery Act (RCRA) (as it applies to treatment and disposal of hazardous waste), and the Federal Facilities Compliance Act (FFCA) which amended the RCRA waiver of sovereign immunity. Finally, with a view toward conflict resolution, an examination of prospective solutions will consider the viability of alternative technologies, the need for further federal legislation, and the availability of a presidential exemption.

II. HISTORICAL BACKGROUND INFORMATION

A. USE OF CHEMICAL WEAPONS

Historians trace chemical warfare back to ancient times: the Spartans burned bundles of sticks soaked in pitch and sulfur to upset besieged Athenians; Romans were driven from the walls of Abracia in 190 B.C. when defenders pumped smoke from smoldering feathers into their attackers' tunnels; and stink pots were catapulted into medieval fortresses.[10] However, World War I (WWI) is generally recognized as the proving ground of modern chemical warfare.[11] April 22, 1915, at the Second Battle of Ypres, Belgium, a German attack released 150 tons of chlorine gas against French and Algerian forces.[12] The first use of chemical weapons against American forces also occurred during WWI, when German forces attacked the 1st Infantry Division with chloropicrin and phosgene.[13] Although gas attacks were successfully mounted by both sides in WWI, the temporary advantages obtained by the user never proved decisive.[14]

Historians seem unimpressed with chemical warfare; scientists were more impressed than were professional soldiers.

Casualties attributable to chemical warfare in WWI seem astounding at first blush, but the accuracy of statistical data is questionable. As L.F. Haber notes, "We shall never know how many were killed by gas, for throughout the war there were no accurate records of those whose death in action was directly attributable to this weapon."[15] A report of estimated British casualties resulting from early German cloud gas attacks, December 1915--August 1916, claims 4,207 gas casualties of which 1,009 died.[16] A.M. Prentiss estimates that 91,198 combatants were killed by gas during WWI.[17] American gas casualties are estimated at approximately 71,500; or one-third of all wounds treated, with only 2% resulting in death.[18] American statistics are accepted as the most reliable, but are misleading with respect to the lethality of gas since by 1917 when the American Expeditionary Force arrived, the Allies faced primarily mustard gas which caused high casualties but comparatively fewer deaths.[19] However, the survival rate serves to point out perhaps the most lasting impact of the chemical warfare experience of WWI, i.e. the fear and psychological impacts of these indiscriminate weapons.

Writing of the British experience, Haber recounts the following statistical data:

> By 31 March 1929 there were still about 737,000 men drawing disability pensions arising out of the 1914-18

> war of whom 427,000 received compensation for diseases, as distinct from wounds or amputations, among them tuberculosis, heart, respiratory system, and various neuroses, as well as 7,700 gas cases, the number being roughly equivalent to those certified as insane as a result of the war! . . . But the medical and pension services had not been designed to deal with those who, as a result of war service, found themselves not ill, but frequently unwell and subject to throat and chest diseases. It is possible that these men, in their maturity, would attribute their condition to the consequences of a gas attack ten or fifteen years earlier. The cause-and-effect connection between exposure to phosgene or mustard gas at [age] 20 and bronchitis at 30-plus might often be tenuous, but it existed.[20]

With so many survivors inflicted with what they believed to be latent derivative effects, it seems reasonable to expect them to share their self-diagnosis with friends and relatives, thereby multiplying the lasting impact on the public conscious.

Considerable psychological burdens were similarly noted on the battlefield. Fear of being gassed produced a psychoneurosis, "gas fright," in which a soldier would manifest systems merely upon hearing a report that gas was in the area without any actual exposure.[21] Victor A. Utgoff, recounts the following anecdote American Expeditionary Force:

> An important cause of low morale was the mounting fear of the enemy's use of gas . . . it was largely responsible for creating so great a straggler problem that . . . a solid line of MPs back of the fighting front had become necessary to keep the men in line.[22]

A modern example of such fear was the fumbling of television reporters during Operation Desert Storm in 1991, as Iraqi SCUD missiles were thought to be reaching Israel and Saudis Arabia with chemical payloads. The reality of the threat arrived in the homes of millions worldwide, live via satellite.

The world has experienced intermittent incidents of chemical warfare in the nearly eighty years since WWI. Restraint may in large part be attributable to diplomatic efforts discussed separately herein. Nevertheless, a quick rundown demonstrates that so long as these weapons remain readily available, they are likely to be used: Italy confirmed its use of mustard gas against Abyssinia 1935-36; Japan employed chemical weapons against China 1937-45; Germany and Poland exchanged allegations of use of mustard gas in 1939; the Soviets reported German use of chemical mortars in the Crimea in 1942; and some sporadic use was attributed to Japan on Guadalcanal in 1943.[23] The Geneva Protocol of 1925 prohibited first use, but an interesting explanation for the pronounced non-use of chemical weapons during World War II (WWII) has been attributed to Adolph Hitler's personal aversion to chemical warfare--based on his unpleasant

experience of being temporarily blinded while serving with the 16th Bavarian Reserve Infantry Regiment in 1918.[24]

Since WWII there have been further sporadic incidents and allegations: the Peoples Republic of China alleged American use in Korea, but no credible evidence was ever put forward and the United States vehemently denied the allegation; the International Committee of the Red Cross criticized Egypt for use of chemical weapons against Yemen, 1967-68; the United States and its allies used herbicides and riot control agents during the Vietnam conflict, 1961-68, but consistently denied the use of any casualty producing chemical weapons; following American withdrawal from Southeast Asia, reports emerged of the use of lethal chemical weapons in Laos and Kampuchea, 1975-81, and evidence implicated the Soviet Union as the source of the agents employed; direct Soviet use of a variety of chemical weapons occurred while the Soviet Union engaged in military operations in Afghanistan, 1979-82; and perhaps the most extensive modern day use occurred during the war between Iran and Iraq, 1982-86.[25] In addition, Iraq is alleged to have used chemical weapons internally, against its Kurdish population.[26] Most recently some of the emerging nations from the former Soviet Union have exchanged allegations of use of chemical weapons. Armenia and Azerbaijan underwent a United Nations inspection which found no conclusive evidence.[27] Also, Abkhazians accused Georgians of using chemical weapons.[28]

The preceding overview of some historical aspects of chemical warfare accentuates the incessant horror of the stockpiled materiel awaiting destruction. Use of chemical weapons in WWI and throughout the Twentieth Century spawned an extensive research, development and production effort in the United States for both offensive and defensive capabilities. The stockpiles are the legacy of that effort. Ironically, as reflected in the governing statute and its legislative history, it was the Department of Defense (DoD) desire to begin production of a new generation of "binary" chemical munitions which persuaded Congress to initiate a systematic destruction program for aging "unitary" munitions.[29] However, before examining the details of the CSDP, consider the following synopsis of international efforts to stop chemical warfare.

B. INTERNATIONAL EFFORTS TO STOP CHEMICAL WARFARE

The first documented international agreement regarding chemical weapons appears to be one reached between the German and French armies on August 27, 1675 in Strassburg, which provided in pertinent part, ". . . that no side should use poisoned bullets."[30] Another notable early effort is the 1899 Hague Declaration Prohibiting Projectiles and Gases, which called upon its parties ". . . to abstain from the use of asphyxiating or deleterious gases."[31] The Annex to Hague Convention IV, 1907, Article 23 provides that it is especially forbidden to employ poison or poisoned weapons.[32] However, as previously discussed, these early efforts did not inhibit gas warfare in WWI. The

Treaty of Peace with Germany, better known as the Treaty of Versailles, included two specific provisions concerning gas or chemical warfare:

> Article 171
>
> The use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany.
>
> The same applies for materials specially intended for the manufacture, storage and use of the said products or devices . . .
>
> Article 172
>
> Within a period of three months from the coming into force of the present treaty, the German Government will disclose to the Governments of the Principal Allied and Associated Powers the nature and mode of manufacture of all explosives, toxic substances or other like chemical preparations used by them in the war or prepared by or for the purpose of being so used.[33]

Significantly, manufacture and storage were prohibited by the Treaty of Versailles. Unfortunately, due to a domestic political struggle between President Woodrow Wilson and the U.S. Senate, America never ratified this treaty. As a consequence the United States not only failed to become a party, but also was kept out of the League of Nations.[34] Most provisions of the treaty were

not well received by Germany. Revisions, modifications, and alterations were so commonplace that by the time Adolph Hitler ascended to power Allied enforcement was practically nonexistent. Some historians blame the Treaty of Versailles for the tensions which led to WWII.[35]

The importance of the chemical warfare provisions of the Treaty of Versailles were soon overshadowed by the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare.[36] Between the two world wars the Geneva Protocol was ratified by 43 countries, including Britain, France, Germany and the Soviet Union, but not the United States.[37] The United States signed-on some fifty years later, effective April 10, 1975, reserving the right to retaliate.[38] In a contemporaneous action, President Gerald Ford renounced first use of herbicides and riot control agents in war.[39] These dramatic policy statements by President Ford concluded an effort initiated by President Richard Nixon during the Vietnam-era when he renounced first use of chemical weapons and encouraged Senate ratification of the Geneva Protocol in 1969.[40]

Today 142 nations are listed as signatories to the Geneva Protocol.[41] Nevertheless, the world is still haunted by the specter of chemical warfare. The gaping loophole of the Geneva Protocol is its failure to completely ban the manufacture or stockpiling of chemical weapons. In 1962 the United Nations' Eighteen Nation Disarmament Committee first reviewed plans,

submitted by the United States and the former Soviet Union, which included provisions for eliminating chemical and biological weapons.[42] In August 1968, discussion of chemical weapons issues were included on the agenda of the Conference of the Committee on Disarmament (CCD) in Geneva.[43] The CCD is an independent arm of the United Nations (UN) devoted to negotiation of disarmament agreements. After formally joining the Geneva Protocol in 1975, the United States sought to seize the initiative and conducted closed bilateral talks with the former Soviet Union from 1978-1980, but returned to the CCD in Geneva without an accord.[44] March 17, 1980, the international community refocused with the establishment of an *Ad Hoc* Working Group on Chemical Weapons within the Committee on Disarmament (CD) (CD being the successor to the CCD).[45] The most difficult issues were verification and compliance.[46]

The modern phase of negotiations for the CWC began in 1983.[47] On February 4, 1983, then-Vice President George Bush presented U.S. requirements for a verifiable prohibition on the production, stockpiling, and transfer of chemical weapons which emphasized the need for on-site inspections and a multilateral mechanism for dealing with compliance issues.[48] Then, in April 1984, Vice President Bush unveiled a U.S. draft treaty proposal calling for a worldwide ban on the development, production, stockpiling, transfer, and use of chemical weapons.[49] Although initially dismissed by the Soviets, this draft ultimately became

the basis for discussion within the *Ad Hoc* Working Group as a "rolling text" subject to revision by the representatives.[50]

Meanwhile, the Reagan Administration continued an aggressive policy of building up American military power in order to negotiate with the Soviets from a position of strength. On January 28, 1985, President Ronald Reagan issued an order establishing the Chemical Warfare Review Commission to, ". . . review the overall adequacy of the chemical warfare posture of the United States with particular emphasis on the question of whether the United States should produce binary chemical munitions."[51] On July 29, 1986, President Reagan certified to Congress that all prerequisites were met to begin the binary weapons modernization program. His press release reiterated U.S. policy renouncing first use and proclaimed America's first priority to be negotiation of a comprehensive, effective and verifiable global ban; however, ". . . until such a ban is attained, we will pursue deterrence through a strong defensive posture and a credible retaliatory capability."[52] In his annual report to Congress for fiscal year 1987, Secretary of Defense Caspar Weinberger applauded the decision to begin production of binary chemical munitions, concluding that, ". . . modernization will support international efforts to achieve what we and most of the world desire--an end to chemical warfare."[53] Revelation of the U.S. intention to modernize clearly influenced Soviet behavior during 1986-1987, as previously unthinkable concessions were negotiated. These breakthroughs followed Mikhail

Gorbachev's assumption of power and may be partially attributable to his bold initiatives, but seem best explained by the Soviet desire to avoid a costly chemical arms race.[54] Also, news of chemical attacks in the Iran-Iraq War and intelligence reports of prospective large-scale production in Libya caused growing concern throughout the international community.[55] President Reagan made a specific appeal before the United Nations in September 1988, urging nations of the world to reconvene to consider issues of chemical warfare addressed in the Geneva Protocol.[56]

In Paris, France, January 7-11, 1989, a Conference of States Parties to the 1925 Geneva Protocol and Other Interested Parties, met and reaffirmed their commitment not to use chemical weapons.[57] The Final Declaration of this Conference stressed the determination of the participating States to prevent any recourse to chemical weapons by completely eliminating them.[58] The international momentum continued to grow. Australia hosted an International Government-Industry Conference Against Chemical Weapons, September 18-22, 1989 in Canberra. The head of the U.S. delegation, Assistant Secretary of State Richard A. Clarke, opened his statement to the conference by quoting the devotion of then-President George Bush: "*If I am remembered for anything, it would be this, a complete and total ban on chemical weapons.*"[59] Assistant Secretary Clarke made reference to a bilateral effort between the United States and the Soviet Union that was nearly complete. The final agreement, in the form of a Memorandum of

Understanding (MOU), was expected to overcome the problem of secrecy which had plagued prior negotiations; each party would detail the size of their stocks, types of agent, types of weapons, and their exact location.[60]

On September 23, 1989, the referenced MOU was signed by U.S. Secretary of State James Baker and Soviet Foreign Minister Eduard Sheverdnadze, and went into effect immediately.[61] Aside from continuing to improve relations with the Soviets, the Jackson Hole MOU is significant to the United States CSDP because it moved national policy to the brink of an international obligation to destroy specified items within a schedule that could not be extended unilaterally by Congress. The Jackson Hole MOU set the stage for an agreement signed at a summit meeting convened in Washington D.C. On June 1, 1990, Presidents Bush and Gorbachev signed an agreement specifically designed to begin implementation of the CWC in advance of its completion in Geneva.[62] The Washington Summit Agreement relies on data exchanged under the Jackson Hole MOU. Each Party was to begin actual destruction no later than December 31, 1992, and by December 31, 2002, the aggregate quantity remaining was to be less than 5,000 metric agent tons.[63]

The U.S. Congress is sensitive to the fact that what started as a unilateral commitment is now the leading component of the Washington Summit Agreement and the CWC.[64] Nineteen senators wrote President Bush to express their concern that use of executive agreements such as the Jackson Hole MOU and the

Washington Summit Agreement may constitute an improper avoidance of congressional scrutiny under provisions of the Arms Control and Disarmament Act (P.L. 87-297, Section 33; 22 U.S.C. §2573), or avoidance of the Constitutional requirement for the Senate to ratify a treaty.[65] This issue may be moot in light of the collapse of the Soviet Union and the result of the 1992 Presidential Election. CSDP implementation problems and the demise of the Soviet Union were recently cited by proponents who successfully extended the statutory deadline for destruction to make it coincide with the probable effective date of the CWC.[66] Since its inception, the statutory mandate for destruction of the stockpile has evidenced Congressional intent to work within the timetable of any ratified treaty.[67]

The CWC is now signed and awaits ratification. The convention will enter into force 180 days after ratification by the 65th signatory nation, but not earlier than two years after its opening for signature (January 13, 1993).[68] The Department of Defense anticipates entry into force as early as January 1995.[69] As manifested in the protracted negotiations which preceded this accord, the CWC involves extremely technical substantive matters necessary to ensure verification and enforcement which are beyond the scope of this inquiry. Key provisions are summarized as follows:[70]

The CWC prohibits:

-- The development, production, acquisition, stockpiling, retention, and transfer of chemical weapons.
-- The use of chemical weapons against any other state--regardless of whether the country is a signatory to the CWC.
-- Engaging in any military preparations to use chemical weapons.
-- Assisting, encouraging, or inducing anyone to engage in activities prohibited to CWC signatories.

The CWC requires:

-- Declaration of all chemical weapons and chemical weapons production facilities.
-- The declarations provided must be checked.
-- Storage, production, and destruction facilities must be monitored through on-site inspections.
-- All chemical weapons destroyed within ten years.[71]

The CWC provides for:

-- Routine Inspections: conducted by an international body (to be established).

-- Challenge Inspections: conducted on short notice if a Party suspects illegal activity; any State Party can invoke governing provisions and a report of findings will be rendered to the Executive Council.

Perhaps most significant is inclusion of an enforcement mechanism. Article XII sets forth measures to redress and remedy noncompliance.[72] These measures range from restriction or suspension of a State Party's rights and privileges to referral of grave violations to the UN General Assembly or Security Council for collective action in conformance with international law. The inclusion of such enforcement provisions may be indicative of arms control in the post-Cold War era.[73] Compliance will be supervised by the Organization for the Prohibition of Chemical Weapons (OPCW) to be based in The Hague, Kingdom of the Netherlands.[74]

The CWC is not a perfect document, but as the first treaty in history to ban the development, production, stockpiling, transfer and use of an entire category of weapons it sets a welcome precedent. UN-Secretary General Boutros-Gali hailed the treaty as a decisive breakthrough for multilateral negotiation of disarmament agreements.[75] The most notable weakness may be the failure of many Arab states to sign, including Iraq.[76] In remarks at the signing ceremony, U.S. Secretary of State Lawrence Eagleburger urged members of the Arab League to sign, noting that, "Nowhere is this more important today than in the Middle

East, a region which over the past thirty years has been home to more active chemical weapons programs--and which has seen more chemical weapons use--than any other part of the world."[77] At least five Arab countries manufacture chemical weapons: Syria, Egypt, Iran, Iraq, and Libya; and Israel is also known to have a chemical weapons cache.[78]

Israel signed the CWC following a difficult debate within the Foreign and Defense Ministries; however, most Arab states, led by Egypt, justified their refusal to sign by linking limits on chemical weapons to a demand that Israel sign the Nuclear Non-Proliferation Treaty.[79] In his signing statement in Paris, Israeli Foreign Minister Shimon Peres sought to minimize the Arab objection by offering Israel's willingness to negotiate a regional arms control agreement that would eventually take nuclear weapons into account, but only after a stable peace agreement is in place with respect to existing massive Arab conventional arsenals that threaten Israel's security.[80] Suffice to say that "the poor man's atom bomb" will continue to be of concern even after ratification of the CWC, but there is some comfort in knowing that with so many nations supporting a complete ban, any States that fail to sign-on will be subject to even greater criticism from the international community in the future.

As for how the CWC impacts on the United States and its CSDP, the first test will be ratification in the Senate. Expect opposition from those who are convinced that the verification

provisions are inadequate and thus argue that the CWC will not further our national security interests.[81] However, in spite of some reservations about how inspection provisions may impact on the domestic chemical industry, the inherently moral idea of a complete ban enjoys bipartisan support in both houses of Congress.[82] Aside from the challenge of meeting compliance deadlines, ratification of the CWC will further complicate CSDP implementation since the treaty covers more than the stockpiled items, e.g. production facilities and nonstockpile inventory such as the newer binary weapons. Congress has already addressed the need to start thinking about how best to dispose of these nonstockpile items, again referencing the CWC in the statutory language and legislative history.[83]

In summary, the CWC offers hope to the world through its promise of a total ban on chemical weapons. Once ratified and entered into force, its terms will set a firm date for destruction of *all* existing chemical weapons and production facilities. As such, political leaders at the federal, state, and local levels must come to grips with implementation or be prepared to accept responsibility for an international embarrassment of epic proportion. In the post-Cold War era, collective security under the auspices of the United Nations has a real chance to succeed, but only if the United States is ready, willing, and able to lead by example. With this understanding of the significance of the CWC, now consider the history and status of the United States CSDP.

III. U.S. CHEMICAL STOCKPILE DISPOSAL PROGRAM

Of primary concern in considering resolution of the NIMBY dilemma is the CSDP mandated by Congress in the DoD Authorization Act for Fiscal Year 1986.[84] However, a very brief overview of pre-mandated efforts is provided along with references to more comprehensive discussions.

A. PRE-MANDATED DESTRUCTION EFFORTS

Prior to 1969 and the awakening of environmental consciousness, the prevalent disposal methods were deep ocean placement, land burial, and open pit burning.[85] The Marine Protection, Research, and Sanctuaries Act of 1972 stopped ocean dumping.[86] Nevertheless, past disposal practices, particularly with respect to chemical munitions dumped into the Baltic Sea after WWII, still threaten marine and plant life as well as some 30 million people who live along the Baltic Coast.[87] Concern for an accident on the high seas formed the basis of an unsuccessful lawsuit filed by Greenpeace USA, seeking to enjoin shipment of old American chemical weapons from Germany to Johnston Atoll in the Pacific.[88]

A 1969 report from the National Academy of Sciences criticized land disposal;[89] therefore, DoD agencies began experimenting with alternative disposal technologies such as thermal treatment (incineration) and chemical treatment (neutralization).[90]

Since 1979 the Army has developed technology for chemical weapons destruction at a test facility located at Tooele Army

Depot (TEAD), Utah: the Chemical Agent Munitions Disposal System (CAMDS).[91] When neutralization efforts proved inefficient in terms of time and the creation of large quantities of waste by-products, efforts focused on incineration. CAMDS pilot tests demonstrated that incineration destroys the molecular structure of mustard and nerve agents in a relatively short time.[92] At Rocky Mountain Arsenal in Denver, Colorado, between 1969 and 1976, the Army successfully incinerated 3,000 tons of mustard agent and 21,000 cluster bombs containing 2,000 tons of nerve agent.[93] CAMDS generated data met federal and state standards for acid mist and particulates with no adverse environmental impact.[94]

By the mid-1980's, when the Reagan Administration pushed forward the production of modernized binary chemical munitions, incineration had been endorsed by the National Research Council as the best method for agent destruction.[95] When Congress finally enacted legislation authorizing the modernization program, included was a *quid pro quo* provision limiting procurement as follows:

> Notwithstanding any other provision of law, no funds may be obligated or expended after September 24, 1983, for the production of binary chemical weapons unless the President certifies to Congress that for each 155mm binary artillery shell or aircraft delivered binary aerial bomb produced a serviceable unitary artillery

shell from the existing arsenal shall be rendered permanently useless for military purposes.[96]

The destruction effort took on more significance as defense planners sought to meet the statutory criteria for implementation of the binary weapons modernization.[97]

A recurring theme from individuals and groups opposed to the Army's plan to destroy by incineration is the view that the entire program is being rushed.[98] However, in 1990 when President Bush entered into the Washington Summit Agreement he agreed to stop production of chemical weapons.[99] Even though the Russians subsequently fell behind in their destruction effort, they have adhered to the production ban. Consequently, the only external pressures remaining are the Congressionally mandated deadline and expected ratification of the CWC which coincide. With this base knowledge of how the CWDP began, it should be easier to understand how the program has progressed to date.

B. CONCERN FOR SAFETY AND THE ENVIRONMENT

The implementing legislation clearly established the importance of safety and environmental protection:

50 U.S.C. §1521(c)(1)

. . . the Secretary [of Defense] shall provide for--

(A) maximum protection of the environment, the general public, and the personnel who are involved in the destruction of the lethal chemical agents and munitions . . .; and

(B) adequate and safe facilities designed solely for the destruction of lethal chemical agents and munitions.[100]

The United States ensured that the CWC language contained a similar reference to safety and environmental concerns:

Article IV, paragraph 10.

Each State party, during transportation, sampling, storage and destruction of chemical weapons, shall assign the highest priority to ensuring the safety of people and to protecting the environment. Each State party shall transport, sample, store and destroy chemical weapons in accordance with its national standards for safety and emissions.[101]

As such, protection of people and the environment govern this program.

An environmental ethic first emerged as a concrete concern for federal policymakers with passage of the National Environmental Policy Act of 1969 (NEPA).[102] President Nixon issued an executive order outlining his guidance for NEPA compliance and instructing heads of agencies to consult with federal, state, and local agencies.[103] A few years later, President Nixon sought to further emphasize his commitment with issuance of an order proclaiming that the federal government, ". . . shall provide leadership in the nationwide effort to protect and enhance the quality of our air, water and land

resources through compliance with applicable standards for prevention, control, and abatement of pollution in full cooperation with State and local governments."[104] President Jimmy Carter went a step further and specified that, ". . . the head of each Executive agency shall ensure that sufficient funds for compliance with applicable pollution control standards are requested in the agency budget."[105] Unfortunately, federal agencies (and DoD in particular) were often cited by states and the U.S. Environmental Protection Agency (EPA) for excessive pollution, leading Congress to pass the Federal Facilities Compliance Act of 1992 (FFCA).[106] The FFCA clarifies Congressional intent with respect to RCRA enforcement against federal facilities, unequivocally waiving sovereign immunity from state imposed fines and penalties, and authorizing EPA to assess fines and penalties against other federal agencies.[107] Although politically popular with environmental citizens groups, state regulators, and the EPA, it took Congress five years to enact the FFCA. It was ultimately deemed necessary to force DoD and other federal agencies to squarely face the exacting task of compliance with federal, state, and local statutory and regulatory requirements.[108] Arguably, this legislation brings a renewed sense of urgency to environmental morality within the federal government.

Moreover, the Army leadership recently adopted a new commitment and philosophy which recognizes environmental values as an intregal part of the Army mission. The *U.S. Army*

Environmental Strategy into the 21st Century attaches priority to sustained compliance and focused efforts on pollution prevention. The Army vision is to achieve success as a national leader in environmental and natural resource stewardship.[109] General Gordon R. Sullivan, Chief of Staff, U.S. Army, asserts: "The Army environmental program is an excellent opportunity to demonstrate Army commitment to the world community. We all have an interest in the environment since we inhabit the Earth together."[110] Furthermore, Army policy guidance, even before issuance of the leadership's philosophical guidance, required chemical warfare agents and ammunition related materials to be managed in a manner that protects public health and the environment in accordance with applicable hazardous waste requirements under RCRA.[111] So irrespective of whether one looks to international law, federal law, or Army regulations, implementation of the CSDP must ensure protection for affected people and the environment.

C. IMPLEMENTATION OF THE CONGRESSIONAL MANDATE

1. PRELIMINARY ACTIONS AND 1986 ACTIVITIES

When Public Law 99-145 came into effect on November 8, 1985, some near term projects were already underway: designs were complete and a construction contract had been awarded for the Johnston Atoll Chemical Agent Disposal System (JACADS); construction was more than 50% complete on a disposal facility at Pine Bluff Arsenal (PBA), Arkansas, for disposal of the psychochemical agent BZ; the Drill and Transfer System (DATS), a manpower intensive, mobile field operated system used for the

demilitarization of defective or recovered munitions had completed operations at Umatilla Depot Activity (UMDA), Oregon, and was scheduled to conduct operations at Pueblo Depot Activity (PUDA), Colorado in Spring 1986; the CAMDS pilot plant was still conducting operational tests at TEAD, Utah; a report was pending that would assess M55 rockets that had been in storage since the early 1960's; and a technology development program was in place, with cryofracture and a fluidized bed incinerator then being tested.[112] In addition, a program concept plan was being developed in consultation with the EPA and the Department of Health and Human Services (HHS), as required by Congress.[113] These near term projects were all slated to continue during fiscal year 1986, and once the concept plan was finalized, the approved management organization would start the scoping process for a programmatic environmental impact statement (PEIS).

The proposed JACADS incinerators underwent NEPA analysis and a final environmental impact statement (FEIS) issued in 1983.[114] The JACADS FEIS concluded that the proposed project would result in removal of a potential hazard and that proposed design and management controls would be sufficient to avoid significant environmental effects.[115] Developed from the research experience at TEAD's CAMDS pilot plant, JACADS uses thermal treatment to destroy agents in munitions as well as propellants, fuzes, explosives and other metal components, thus ensuring complete destruction of any residual agent.[116] JACADS is the focal point for implementation of the CSDP since Congress amended the

governing statute in 1988, specifying that prove-out and system testing at stateside disposal sites cannot start until operational data from JACADS has been fully analyzed.[117]

Congress received the original concept plan required by Public Law 99-145 on March 14, 1986. The plan provided three options:

(1) on-site destruction at current storage locations;

(2) transportation of stocks located in the continental United States (CONUS) to a national destruction center which would be sited at TEAD, Utah;

(3) transportation of CONUS stocks to one of two regional destruction centers, with proposed sites being TEAD in the west and Anniston Army Depot (ANAD), Alabama, in the east.[118]

On January 28, 1986, this plan became the basis for NEPA scoping activities following issuance of a notice of intent (NOI) to develop a PEIS.[119] The Army met another statutory requirement with the establishment of the Office of the Program Manager for Chemical Munitions (Demilitarization and Binary) on May 1, 1986, under the leadership of Brigadier General David A. Nydum.[120] Other significant activities in 1986 include: draft PEIS released for public comment; JACADS construction on schedule; PBA, Arkansas, began installing process equipment for the BZ disposal facility; DATS successfully disposed of 74 unserviceable mustard munitions at PUDA, Colorado; at TEAD, Utah, CAMDS pilot operations continued to generate data in support of JACADS--in

particular, one test demonstrated successful incineration of up to 300 pounds per hour of nerve agent GB in a prototype liquid incinerator (1/3 the scale of JACADS); and also at TEAD, developmental work continued for cryofracture technology.[121]

However, the first signs of discontent also appeared in 1986, as public opposition emerged in conjunction with publication of the concept plan and the draft PEIS. On July 25, 1986, General Nydum and several high ranking civilian Army officials appeared before the Investigations Subcommittee of the House Armed Services Committee, at a hearing held in Richmond, Kentucky (the community adjacent to the Lexington-Bluegrass Army Depot (LBAD)).[122] The Subcommittee also heard testimony from other federal, state, and local government officials, as well as concerned citizens. Tremors from Kentucky reverberated back to Washington D.C. as NIMBY opponents sought to change the plan.[123] Their lobbying efforts contributed to these amendments which became law on December 4, 1987:

-- no obligation of appropriated funds for procurement in CONUS until the Secretary of Defense certifies to Congress that the concept plan includes:

-- evaluation of alternative technology

-- full-scale operational verification of the selected technology

-- maximum protection for human health and the environment

-- requirement to prepare an alternative concept plan, specifying revised schedules and funding requirements

-- assessment of the condition of the stockpile[124]

NIMBY opposition aside, Congress seemed increasingly concerned with projected cost increases. Even before enactment of Public Law 100-180, the Army submitted a concept plan supplement that sought to optimize safety and cost-effectiveness without the constraint of the Congressionally mandated deadline for stockpile destruction (September 30, 1994). Still working with the three options of the original concept plan, five technical options were applied yielding life cycle cost projections that ranged from $2.0 billion to $2.8 billion, and completion dates from October 1995 to September 2008.[125]

2. 1987 ACTIVITIES

Congress received the supplement in March 1987, but decided more information was necessary as reflected in the above discussion of the December 1987 amendments. The primary focus throughout 1987 was finalization of the PEIS. In response to public concerns identified through the scoping process and comments to the draft PEIS, the Army initiated 13 technical studies to augment the programmatic analysis.[126] Public Law 100-180's amendments also required issuance of the FPEIS by January 1, 1988; perhaps a manifestation of Congressional frustration with program delays.[127] Meanwhile, coordination with the EPA and

state regulatory agencies continued, as the Army sought to perfect permit applications required under the CAA and RCRA.[128] The Army originally submitted eleven draft RCRA permit applications in 1986.[129] By December 1987, federal and state regulators had completed at least one review of all RCRA permit applications except for Aberdeen Proving Ground (APG), Maryland; state regulators refused to look at the APG application until a site-specific EIS was available.[130] Kentucky provided preliminary comments, but placed further reviews for LBAD on hold pending release of the FPEIS and record of decision (ROD).[131] By the end of 1987, nine CAA air emission source permit applications had been filed covering all alternatives of the concept plan;[132] again, APG is an exception since Maryland regulations exempt hazardous waste incinerators that have applied for a hazardous waste facility permit from the CAA requirement to obtain a permit to construct.[133] Other significant activities in 1987: JACADS completed plant construction and began installing process equipment; PBA, Arkansas, initiated training of operators for the BZ disposal facility, preparing to start destruction operations in early 1988; also at JACADS, a supplemental EIS was completed which considered disposal alternatives for process wastes; at PUDA, Colorado, DATS processed a few leaking munitions and then was placed in storage; at TEAD, Utah, CAMDS continued to support JACADS, but operations had to be suspended in January 1987 when a low-level release of nerve agent GB was detected (unrelated to incineration operations; however, agent stored in the building

leaked and set off an excursion alarm); and cryofracture development progressed with a successful bench scale test of a press-kiln isolation valve.[134]

Public participation took a step forward in 1987 as DoD provided funds to aid local citizens review of the draft PEIS.[135] Reports issued by the various study groups focused attention on local community concerns.[136] Comments from the study groups led to initiation of the studies delineated in endnote 136 *infra*. As might be expected, long-term health risks from exposure to stack emissions and emergency response preparedness were of universal concern. Citizens in Kentucky opposed incineration and expressed particular skepticism of whether any generic evacuation plan could be relied upon. They suggested equipping all individuals with low-cost nerve agent respirators (i.e. gas masks) or alternatively converting designated rooms into nerve gas shelters with environmental controls.[137] Citizens in Indiana also opposed incineration and urged the Army to reconsider chemical neutralization or transportation to a national disposal facility in Utah.[138] The Maryland group stressed that site-specific conditions counsel against incineration and recommended reevaluation of the transportation option, specifically marine transport to Johnston Island.[139] Only the report from Oregon concluded that incineration makes sense, recognizing that the technology is proven and, ". . . there appears to be little increased human health risk from hazardous waste incinerator emissions, based on assessments done to date."[140]

March 11, 1987, in his testimony before the Defense Subcommittee of the House Appropriations Committee, James R. Ambrose, Undersecretary of the Army, emphasized a point that seemed to have been lost in the shuffle as NIMBY opponents attracted headlines:

> The last point I make is that we hear a great deal, as we should, about the concerns of the public for the hazards of this and the proximity of public institutions and populations to these places where most of this material is stored.
>
> To emphasize a point not widely known, on these bases where the material is stored are thousands of Federal employees, most of whom are residents of the same communities with families and children in the same place.
>
> We are not about to demilitarize these ingredients in any way that puts those people at risk. If we succeed in that objective, and we certainly intend to, then in common sense there will be less risk to people who are at greater distances.[141]

Undersecretary Ambrose appears to have been trying to rebut testimony presented to the Subcommittee on Investigations of the House Armed Services Committee on March 4, 1987, at which federal, state, and local politicians filled the record with their views on why the program should definitely be delayed and preferably altered, i.e. do it another way or better yet, do it

somewhere else.[142] As the Army looked ahead to 1988, the program faced some uncertainty, pending release of the ROD which would be based on the FPEIS. Furthermore, Congress hampered management flexibility to keep the program moving with denial of a request for supplemental funds in fiscal year 1987.[143]

3. 1988 ACTIVITIES

Release of the FPEIS in January 1988 encouraged program advocates and strengthened the resolve of NIMBY opponents. The ROD appeared in the *Federal Register* on February 26, 1988.[144] Selection of the FPEIS's preferred alternative of on-site incineration at each of the eight CONUS locations meant the Army next needed to conduct site-specific NEPA analysis. For the Army, completion of the first tier of NEPA analysis was good news, but the bad news was that opponents now had more than a conceptual plan on which to focus their attack. Congressional representatives receive advance notice of RODs that impact on their districts, and the Subcommittee on Investigations of the House Armed Services Committee hastily called a hearing to convene on February 29, 1988, to examine the ROD. Members wanted to make sure the Army still intended to prepare site-specific EISs for each of the eight storage locations.[145]

In accordance with Public Law 100-180, the Army submitted its Chemical Stockpile Disposal Implementation Plan (CSDIP) to Congress on March 15, 1988. The plan called for staggered construction of facilities modeled after JACADS at each of the eight CONUS sites, and continued development of cryofracture

technology as a potential back-up--if it proved to be safe and cost effective.[146] The estimated total program cost of $2.7 billion represented a dramatic increase over a $1.8 billion estimate provided in March 1986.[147]

At a Congressional hearing held on March 22, 1988, Army witnesses answered many questions about spending and whether the Army's plan complied with legislative requirements, in particular, a concern about going forward with construction at TEAD *before* completion of operational verification testing (OVT) of JACADS.[148] While following a similar line of questioning, Congressman John T. Myers, Indiana, asserted:

> I don't want to see the cart before the horse, and I think we need to examine the site-specific EIS before we make a recommendation. I recommend we not put money in to build incineration facilities at local sites until we examine what is being done at Johnston.[149]

Testimony throughout this hearing clearly established that the original mandated deadline of September 30, 1994 was no longer realistic; therefore, among other amendments, Public Law 100-456 extended the deadline to April 30, 1997, to afford a better opportunity for the Army to improve on the JACADS design through OVT before implementing the design at most of the CONUS facilities (TEAD was exempted from this limitation).[150]

Another significant program undertaking actually began in December 1987, when the Army selected the National Academy of Science's National Research Council (NRC) as an independent

advisory group to the program.[151] The oversight committee established by the NRC was very active throughout 1988, visiting both TEAD and JACADS to view operations and assess the impact of technology transfer between them and the BZ disposal facility at PBA. Congress supported the NRC's participation with $5 million in funds specifically authorized for their independent safety review.[152]

At JACADS, contractors installed all process equipment for M55 rocket destruction operations and began installation of projectile processing equipment. Prove-out and testing of independent systems began, while plans called for tests of integrated systems to start in January 1989.[153] Congress questioned why destruction of rockets had not yet begun, and the Army explained that the original schedule pre-dated the program established by Public Law 99-145, which compelled a redesign of JACADS to accommodate munitions other than M55 rockets.[154] The Army submitted proposed modifications of the JACADS RCRA Part B permit to the EPA for review; the revisions incorporated several process design changes and operational criteria developed since issuance of the permit in August 1985.[155]

At PBA, Arkansas, BZ disposal operations started in May 1988. The facility met all applicable federal, state, and local compliance requirements. By mid-December 1988, the facility had destroyed all bulk BZ agent in the inventory and nearly all M43 bomb clusters.[156] Operations were slated to continue through

1990, at which time the plant would be reconfigured to destroy other chemical stockpile items at PBA.

The cryofracture incineration program came under intense scrutiny from the Defense Subcommittee of the House Appropriations Committee; questions submitted by Oregon Congressman Les AuCoin focused on the status of research at TEAD and the prognosis for whether cryofracture technology is achievable in time to benefit the destruction program. The Army responses reflect cautious optimism, noting the need to establish adequate data to confidently predict that operations can be conducted in a safe and environmentally acceptable manner.[157] Research efforts continued at TEAD with cryofracture viewed as a promising technology and back-up for JACADS.[158]

Public awareness and participation remained a key element of the program, particularly after release of the FPEIS and ROD. Public meetings were held at Edgewood, Maryland (APG); Newport, Indiana (NAAP); and Richmond, Kentucky (LBAD). Strong public opposition at these sites remained focused on public safety issues.[159] As is so often the case with NIMBY opposition in an environmental context, no matter how hard one tries to provide an adequate answer, the opposition remains unconvinced because they are so wed to the correctness of their position that they refuse to listen to the other side. In fairness, it should be noted that opponents of the CSDP believe the Army is guilty of the same intransigent thought process.

The CSDIP called for development of a second tier of NEPA analysis divided into two phases: first, collect site-specific data for comparison to the FPEIS and ROD, searching for significant differences; second, if there are no significant differences, a site-specific EIS will address impacts of implementing the programmatic ROD without revisiting all the alternatives considered in detail in the FPEIS.[160] Unexplained, and what raised public ire, was under what circumstances the Army might reconsider the programmatic decision at any given site. Local citizens took offense to the "phased approach," interpreting it as a means to escape a "real EIS;" consequently, Army officials were called before Congress on February 29, 1988, as referenced earlier, to reaffirm their intent to prepare site-specific EISs for each of the eight CONUS installations.[161]

Apart from NEPA compliance efforts, a final RCRA permit application was filed in Utah for the proposed TEAD Facility in September 1988.[162] TEAD filed its final CAA notice of intent to construct in December 1988.[163] As noted earlier, the Army made a concerted effort to get ahead at TEAD. Army officials acknowledged that they wanted to push construction at TEAD primarily because it stores the greatest quantity of materiel.[164]

A final highlight from 1988's many activities regards emergency response preparedness. In a prepared statement presented in testimony before Congress on March 9, 1988, Dr. Thomas J. Welch said, "The Chemical Destruction Program has a single unequivocal requirement: safety."[165] With that in mind,

$2.5 million was spent on upgrading emergency response capabilities at and around the CONUS storage sites as well as at JACADS. In the budget request for fiscal year 1989, the Army sought $11.8 million to assist local communities with training of local hospital personnel, police, and other persons necessary to carry out emergency response.[166] In addition, the Army signed a memorandum of understanding (MOU) with the Federal Emergency Management Agency (FEMA), to delineate responsibilities of each agency.[167] At the end of 1988, the program had initiated destruction of BZ weapons at PBA, Arkansas, and destruction operations were about to begin in conjunction with OVT at JACADS. The NEPA process continued, as did emergency planning and environmental compliance efforts with federal, state, and local agencies. Congressional oversight expressed concern with rising program costs and continued to prod for a way to alter the CSDIP to accommodate parochial NIMBY concerns of constituents; however, the bottom line remained that the CSDP should continue as planned.

4. 1989 ACTIVITIES

The most notable progress came at TEAD: the State of Utah issued a RCRA permit in June, the Army published a site-specific EIS in July, and a CAA permit issued in August.[168] Published in the *Federal Register* September 6, 1989, the ROD formally announced the Army's decision to construct and operate a full-scale system using the JACADS reverse assembly and incinerator technology.[169] The Army awarded a construction contract for the

facility in September 1989, based on responses received to a Request for Proposals issued in December 1988.[170]

In March 1989, President Bush asked DoD to investigate the possibility of accelerating the planned removal of forward deployed unitary munitions from Germany. The Army held bilateral meetings with German officials and discussed plans for a retrograde operation.[171] Some Congressional representatives took exception to the Bush Administration's plan to remove the unitary stocks before negotiating an arrangement to replace them with the modernized binary munitions.[172] The Army initiated long-range procurement actions for overpack containers, agent monitors, mobile laboratories, and other necessary support equipment; however, no decision was made as to whether the United States would commit to an accelerated removal schedule.[173]

At Johnston Atoll, contractors completed the installation of all rocket, projectile, and bulk process equipment for JACADS. Personnel recruitment problems forced a delay in the start of OVT from August 1989 to March 1990.[174] This program delay and its concomitant cost increases drew Congressional interest.[175] One final item of note, the Army announced its decision with regard to disposal of process wastes generated by operations at JACADS: liquid wastes (brine) to be dried, containerized, and shipped to a hazardous waste landfill in CONUS; solid waste with value to be sold as scrap; and solid waste without value also to be shipped to a CONUS hazardous waste landfill.[176]

At PBA, Arkansas, the BZ disposal facility completed destruction of munition stocks. As the year closed, operations centered on destruction of solid and liquid wastes resulting from the disposal campaign and prior production/test operations.[177] The Army initiated a site-specific NEPA analysis for the destruction of other stockpile materiel stored at PBA; local citizens raised no significant issues at a scoping meeting held in April.[178] A detailed engineering analysis concluded it would be more cost effective to design and build a new facility than to convert the BZ plant.[179]

The Chemical Stockpile Emergency Preparedness Program's (CSEPP) Emergency Steering Committee completed emergency operation plans for each storage location. The Committee continued to closely coordinate federal, state, and local emergency agencies. In March 1989, the Army provided $100,000, through FEMA, to each of the eight sites to hire emergency planners and continue necessary upgrades of their emergency response capabilities.[180]

CSEPP addresses emergency response in four phases. Phase I (Apr. 87--Sep. 89) started with a generalized upgrade of plans and equipment, and initiation of some medical training. Phase II (Nov. 88--Mar. 90) focuses on developing standards with which to assess the plans, determining further equipment and training requirements, and developing more comprehensive plans. In addition, several technical studies will develop data essential to completion of the final phases. Phase III (May 89--Dec. 92)

is the comprehensive planning, training, and implementation phase. Additional equipment will be procured and training conducted in accordance with standards developed in Phase II. Also, there will be revision of interim plans based on site-specific needs. Plans at each location will be tailored to account for weather, terrain, special facilities, and the maximum credible events. Phase IV (Jan. 93--Apr. 97) is the readiness and maintenance phase. Contemplated are refresher training, equipment maintenance, and periodic practice drills, all ongoing at each site until completion of the mission.[181] Congressman Les AuCoin, of Oregon, seemed particularly pleased to hear of CSEPP progress at UMDA.[182] Generally speaking, as might be expected, spending for this aspect of the program seems to be the least controversial since many of the dollars invested are of immediate benefit to the affected communities.

Cryofracture experienced a setback in 1989. DoD decided to terminate the research and development effort.[183] DoD sought to reprogram funds appropriated for cryofracture following receipt of a technical report from the NRC which concluded that the undeveloped technology did not merit further effort in light of program milestones.[184] Congress disagreed and did not approve the reprogramming request.[185] As the year ended, DoD elected to restart the cryofracture development program, yielding to Congressional "purse string" pressure.[186]

Other 1989 highlights include: continuation of efforts to coordinate finalization of RCRA and CAA permits; initiation of

site-specific NEPA scoping at ANAD and UMDA; and groundbreaking for the Central Training Facility at APG.[187] Rising program costs launched reviews by a House Appropriation Committee Survey and Investigation Team; the General Accounting Office (GAO); and the Army Audit Agency (AAA).[188] The most anticipated event planned in 1990 was start-up of OVT at JACADS.

5. 1990 ACTIVITIES

In correspondence transmitting the annual report to Congressman Les Aspin, Chairman, House Armed Services Committee, Mrs. Susan Livingstone, the new Assistant Secretary of the Army (Installations, Logistics and Environment), specified the two greatest accomplishments of the year as follows:

> Fiscal year 1990 was significant for many reasons, foremost of which was the start of toxic operations followed by operational verification testing (OVT) at the Johnston Atoll Chemical Agent Disposal System (JACADS), the first fully integrated chemical disposal facility. Just as notable was the successful, safe removal of 100,000 chemical munitions from Germany to Johnston Island for storage and eventual destruction.[189]

Assistant Secretary Livingstone also highlighted ongoing construction efforts at TEAD and APG, further CSEPP activities, restart of cryofracture, consideration of possible future uses for the planned disposal facilities, participation in bilateral chemical weapons reduction talks with the Soviet Union, and assessment of the safety of the stockpile.[190]

In testimony before the Defense Subcommittee of the House Appropriations Committee given in April 1990, Mrs. Livingstone and other DoD witnesses faced extensive questions, particularly concerning JACADS and program costs.[191] Furthermore, a GAO report concluded that CSDP cost estimates for on-site disposal had doubled since 1985, from $1.7 billion to more than $3.4 billion, and predicted the costs would continue to escalate.[192]

NIMBY opposition had been less vociferous in 1989, dormant while awaiting an opportunity to comment on site-specific NEPA documents. However, President Bush's diplomatic efforts with Germany aroused international environmentalist interest.[193] The Army published its ROD for the German retrograde operation on July 23, 1990.[194] Greenpeace International and the Sierra Club Legal Defense Fund each submitted extensive comments to the SSEIS.[195] Since the ROD based its conclusion on the SSEIS, it came as no surprise when Greenpeace sought a temporary restraining order in August 1990.[196]

Inhabitants of nearby Pacific Islands also voiced opposition.[197] President Bush held a summit with Pacific leaders in October 1990 to discuss trade and cultural initiatives. He assured leaders of the South Pacific Forum that the United States has no plans for further use of Johnston Atoll's JACADS facility (beyond destruction of the materiel on site plus that to be brought from Europe; however, President Bush stopped short of offering a guarantee.[198]

The President refused to make a firm commitment, but the Senators from Hawaii have led a continual fight to prevent Johnston Atoll from becoming the world's chemical dumping ground.[199] Nevertheless, stateside NIMBY opponents, especially at APG, Maryland, believe that following the successful German retrograde operation, the alternative of shipping CONUS stocks to JACADS for destruction should be reconsidered.[200] The fact remains that as of 1992, JACADS was the only fully operational system, although TEAD is nearing completion.[201] Therefore, in spite of many promises made to the people of the South Pacific, the facilities that are up and running are the easiest targets for CONUS' NIMBY opposition at APG, LBAD, and NAAP, and they often point up demographic differences when making their respective cases for an "exception" to on-site disposal. If adopted, the transportation alternative would present new opponents questioning how and where all along the route; potentially, an even larger group of NIMBY opponents.[202]

Returning to other events in 1990, after prevailing in the District Court of Hawaii, the retrograde operation went forward as planned with heavy security in place. American and German officials escorted the munitions to the port of Nordenham and loaded them aboard two U.S. vessels.[203] Nevertheless, in spite of strict security measures, trains carrying the overpacked munitions from Miesau Army Depot to the port were delayed for two hours near Kassel due to a bomb threat.[204] The vessels left

Germany September 22, 1990; arrived at Johnston Island November 6, 1990; and were safely unloaded by November 17, 1990.[205]

The Office of the Program Manager became much more involved in assisting the U.S. Arms Control and Disarmament Agency (ACDA) in bilateral negotiations with the Soviet Union. Under provisions of the Jackson Hole MOU and the Washington Summit Agreement, the Army coordinated on-site reviews. Soviet technical experts received access to CSDP facilities at TEAD and JACADS. Further, $22 million was provided to aid with research and development for treaty verification and compliance with the CWC (as it then existed in draft form, i.e. the "rolling text.")[206]

In the area of environmental compliance, the Army initiated the Phase I site-specific analysis at PUDA. Phase I reports at ANAD, UMDA and PBA found no new or unique information, thus no apparent need to change or contradict the conclusions of the FPEIS.[207] Meetings continued throughout the year with regulators in Alabama, Arkansas, and Oregon, attempting to finalize the RCRA and CAA permit applications.

Once again, cost conscious members of the Defense Subcommittee of the House Appropriations Committee raised the issue of possible "future uses" for the disposal facilities.[208] This idea contradicts the implementing legislation, Public Law 99-145, which requires dismantling of the disposal plants once destruction is complete.[209] Irrespective of dollars, there is a certain amount of intrinsic "goodwill" related to this issue

which ought not be disrupted. NIMBY opponents would no doubt press their case even harder if Congress changed the law, thereby turning these special use facilities into full-fledged hazardous waste incinerators. Nevertheless, in 1990 Congress asked the Army to study the matter, so the MITRE Corporation was retained to conduct an independent evaluation; the report scheduled for publication in 1991.[210]

The Congressionally revived cryofracture program began testing General Atomics facilities in La Jolla, California. Preparations were made to initiate a site-specific EIS for the program. Other tests were planned for 1991 at TEAD and Dugway Proving Ground (DPG), Utah.[211] Milestones for the cryofracture program were as follows:

cryofracture testing -- Jan. 90 - Jun. 91

process design -- Jul. 90 - Oct. 91

EIS -- Jul. 90 - Dec. 91

RCRA/CAA permits -- Feb. 91 - Jul. 93[212]

The Military Construction Appropriations Bill for Fiscal Year 1991 included $6 million specified for the design of a demonstration plant utilizing cryofracture technology. The Committee continues to believe this technology offers the potential for reducing cost and increasing the efficiency of destroying chemical weapons.[213]

Next, consider the significant accomplishment at the PBA BZ disposal facility. Operations began in May 1988 and continued through successful completion in January 1990. Upon completion

of destruction activity, operations turned toward clean-up, decontamination and closure of the facility. The BZ disposal constituted a complete success in terms of mission accomplishment and environmental compliance as all federal and state requirements were met.[214]

OVT at JACADS again experienced delays associated with personnel and equipment deficiencies, delaying the start of toxic operations from March to June.[215] This delay prompted another opportunity for Congressional questions about the reliability of the JACADS baseline technology at hearings held on April 24, 1990.[216] In particular note the following matter of record supplied in response to a question submitted after the hearing:

> *Question.* How likely is it that the schedule will slip ever further?
>
> *Answer.* The current schedule for each chemical disposal site was based on actual construction and systemization experience at the Johnston Atoll Chemical Agent Disposal System (JACADS), best available projected durations for . . . RCRA and Air permit approvals, and facility operations.
>
> We feel these latest schedules are realistic; however, some potential problems which could delay the December 1988 completion are: a chemical weapons destruction treaty, litigation concerning the Environmental Impact Statement[s] (EIS) or permit approvals, and design changes necessitated by the

JACADS Operational Verification Test (OVT) for safety improvements.[217] (For a better understanding of the schedule then being discussed, see Appendix I *infra*.) The critical left out of this discussion by Congress is that safety considerations ultimately control. This is in keeping with the overriding requirement established in the implementing legislation: ". . . to provide maximum protection for the environment, the general public, and the personnel who are involved in destruction . . . ."[218] Regrettably, rising program costs tended to overshadow the steady progress being made as the Army advanced in efforts to comply with site-specific NEPA, RCRA, and CAA requirements.

Legislative amendments enacted November 5, 1990 in Public Law 101-510 did not alter the program dramatically, but did add some additional requirements as summarized below:[219]

§171 (codified at 50 U.S.C. §1521(g)(3)(A) and (B))

-- added items to be included in the annual status report to Congress, to aid in the ability to track status and safety

§172 (codified at 50 U.S.C. §1521(c)(3))

-- authorized DoD to issue grants to affected states and localities in order to upgrade and develop emergency response capabilities in conjunction with CSEPP

§173 (codified at 50 U.S.C. §1521(g)(3)(C))

-- required an assessment of the safety of the stockpile and development of contingency plans in case items in the stockpile start to deteriorate more rapidly

Perhaps most significant is the authority to issue grants, thereby enabling DoD to reduce bureaucratic delay in having to funnel funds through FEMA, although FEMA remained an integral player in the CSEPP effort.

Thus, as 1990 concluded, OVT at JACADS was finally underway. The German retrograde and PBA's BZ disposal were completed. Construction of the disposal facility at TEAD was on schedule. Other sites strived to meet NEPA, RCRA, and CAA requirements, and Congress waited to see whether development of cryofracture and/or possible "future use" proposals might render any program cost savings. Another productive year, but NEPA opposition remained poised to disrupt the program at APG, LBAD, and NAAP.[220]

6. 1991 ACTIVITIES

The first significant event in 1991 occurred in January when the MITRE Corporation released its report on possible "future use" of disposal facilities.[221] The findings identified whether a particular proposed use is feasible or not, and then qualified the "desirability" of such use in light of regulatory requirements, public perceptions, and cost. The study concluded that while there certainly are some other feasible uses, they are

not economically attractive when compared to alternative disposal methods; this due in part to the relatively small size of the furnaces and the specialized nature of these facilities.[222] An earlier GAO report views follow-on uses more favorably;[223] however, its conclusions were drawn without benefit of the MITRE analysis and may be weighted too heavily by purely economic factors. CSDP officials who spoke to GAO investigators explained their reluctance even to initiate the MITRE study (requested by Congress in 1990) due to their delicate working relationship with public officials and private citizens at the sites.[224] Public health concerns of local residents pose the most difficult questions due to their speculative nature and the minute amounts of pollutants expected to be emitted. Nevertheless, after citing risk analysis data, the most effective way to counter long-term risk exposure arguments posed by NIMBY proponents is to remind them that these facilities will operate for a very limited period of time (see schedules at Appendices I and II). DoD declined a Congressional invitation to amend the statute to allow for follow-on uses.[225]

JACADS remained the focal point of the CSDP. The M55 rocket process equipment performed exceptionally well in meeting its safety and environmental goals, but fell short of production goals. The liquid incinerator successfully demonstrated a GB destruction rate of 750 pounds per hour (significantly less than the goal of 1,050 pounds per hour).[226] In addition, the deactivation furnace completed the third of three Toxic Substance

Control Act (TSCA) control burns; this verified the ability of JACADS to destroy polychlorinated biphenyls (PCBs) to an efficiency of 99.9999% at the demonstrated rate.[227]

JACADS shut down for system analysis and improvements for much of the year as engineers and technicians sought to increase throughput rates and further increase process reliability. When internal inspections discovered many deficient welds, additional repairs caused further delays, and OVT did not resume OVT operations until October.[228] Some Congressional representatives briefed on the progress (or lack thereof) at JACADS seemed more sympathetic to engineering and technology driven delays now that actual agent destruction operations were underway. Others remained more concerned with rising life-cycle program cost estimates, by then reaching upward of $6.5 billion with actual systemization and operational experience from JACADS being factored.[229] GAO took another look at the CSDP and issued a report highly critical of its cost increases, recommending that the lower than projected destruction rates suggest that alternative technologies rejected in 1988 should be reexamined.[230]

Meanwhile, Congress and GAO pressed the Army to move faster in developmental efforts for cryofracture technology.[231] In response to a question from Subcommittee Chairman John P. Murtha, Pennsylvania, Mrs. Livingstone explained that the principle cause of delay for cryofracture at the moment is lack of a RCRA permit; Utah claiming not to have sufficient resources to complete the permit in a timely manner (originally anticipated in September

1990, Utah was now estimating May 1991).[232] The Army continued to plan cryofracture projects to be conducted at TEAD's CAMDS facility, and simultaneously continued design work for a full-scale demonstration facility.[233]

Among other program highlights, the Office of the Program Manager continued to support U.S. bilateral negotiations with the Soviet Union as well as multinational efforts in Geneva. Construction at TEAD continued, but experienced a trickle down delay effect based on the JACADS design changes. The Central Training Facility at APG opened in October. A draft request for proposals for the ANAD disposal facility was released for industry review and comments, and the Intergovernmental Consultation and Coordination Board held meetings at sites throughout the country to address environmental and emergency planning concerns.[234]

CSEPP took full advantage of the amendment passed in 1991 authorizing DoD to provide aid to State and local governments; the Army provided $12 million to support personnel requirements, and planning, training, and exercise programs. FEMA received $5.5 million to support development efforts in alert and notification system design, training assessments, automation system design, exercise planning and generic public affairs documents. The first full-scale exercise was conducted at TEAD, Utah. In all, the Army distributed $24 million to support CSEPP. Of the total approximately $6.5 million went to installations and

other Army agencies supporting integration of on-post and off-post emergency preparedness programs.[235]

Once again, environmental compliance efforts made more progress with respect to NEPA than with permits. The Army released its ROD for ANAD in July.[236] The supporting site-specific EIS (SSEIS) published in May fell in line with the PFEIS and endorsed JACADS reverse assembly incineration technology as the preferred alternative.[237] Other NEPA activities included: release for comment of a draft SSEIS for UMDA, Oregon;[238] work continued on a draft SSEIS for PBA, Arkansas; preliminary Phase I reports were prepared for PUDA, Colorado and APG, Maryland; a public scoping meeting held in Richmond, Kentucky, turned boisterous (further demonstrating the resolve of NIMBY opponents at LBAD); and Army officials prepared for a scoping meeting in Newport, Indiana to discuss the proposed NAAP facility.[239]

RCRA and CAA permit applications continued to be revised and updated to reflect changes in the JACADS design; however, the only permit issued in 1991 was the CAMDS RCRA research, development and demonstration permit finally provided by Utah in May (allowing cryofracture to proceed). Congress decided to "prime-the-pump" and amended the governing statute to allow DoD to ". . . provide funds through cooperative agreements with State and local governments for the purpose of assisting them in processing and approving permits and licenses necessary for the construction and operation of facilities . . . ."[240] The accompanying House Conference Report further prescribes that DoD

should develop a cost-sharing formula to aid in management of these disbursements.[241]

Public Law 102-190 also amended the law by extending the "stockpile elimination deadline" from April 30, 1997 to July 31, 1999.[242] The Senate Report cited schedule slippage as the primary motivation for the extended deadline, but also took notice of "reinvigorated multinational negotiations" in its discussion, commenting on the potential impact of entrance into a treaty as set forth in the statute.[243] Following his testimony at a hearing in April, Dr. Billy Richardson, Deputy Assistant (Chemical Matters), Office of the Assistant to the Secretary of Defense (Atomic Energy), submitted answers to questions posed by Representative Julian C. Dixon, California, and one item is particularly germane to the linkage between the CWC and the CSDP:

> *Question*. We have been working on a multilateral treaty to control and destroy chemical weapons in all countries. What is the status of that treaty and what are the emerging outlines of such an agreement?
>
> *Answer*. A chemical weapons convention (CWC) has been under negotiation at the Conference on Disarmament for several years. On 13 May 1991, the President announced some major initiatives designed to enable the remaining substantive issues to be resolved and he called for completion of a CWC within twelve months. The initiatives include *(1) a U.S. commitment* to destroy

all of its chemical weapons within ten years after the CWC enters into force . . . . [emphasis added][244]

Therefore, as previously discussed, successful completion of the CSDP is inextricably intertwined with the CWC.

Recognizing the need for an extension, the Army prepared a revised programmatic schedule that met the amended deadline (see Appendix II). By phasing the start of facility construction and operations at APG, LBAD, and NAAP near the end, the Army bought some additional time to resolve the NIMBY issue at these sites.

Finally, discussion of 1991 would be incomplete without some reference to Operation Desert Shield/Desert Storm and the victor's justice meted out by the UN Security Council. Rather than belabor the point, suffice it to say that as a result of the crushing defeat of Saddam Hussein's forces, Iraq currently has the most aggressive chemical weapons destruction program in the world. The U.N. managed program may lack the extensive environmental planning that defines the U.S. CSDP, but as of October 2, 1992, the U.N. Special Commission (UNSCOM) on Iraq had supervised the destruction of some 11,867 unfilled chemical munitions and 800 122mm rockets--some filled and others partially filled with nerve agent. Inspection teams identified 350 tons of precursor chemicals that will be destroyed pursuant to U.N. Security Council Resolution 687.[245]

To summarize 1991: the Army's CSDP advanced with further proof that JACADS technology works in a safe and environmentally acceptable manner, but lost some ground with the revelation that

it takes longer and costs more than originally anticipated. Amidst the euphoria of victory in the Persian Gulf came the realization of the extent to which chemical weapons proliferation threatens world peace. As Americans entered an election year, the CSDP plodded forward, counting down munitions at JACADS and counting up the dollars necessary to fully implement the program.

7. 1992 ACTIVITIES

The first highlight noted in the annual report to Congress is the reorganization of the CSDP management structure.[246] This reorganization responded to a Congressional directive contained in the House Report accompanying the Defense Appropriations Bill for Fiscal Year 1992.[247] On a more substantive note, JACADS successfully destroyed the entire stockpile of M55 VX-filled rockets as well as all HD-filled ton containers stored at Johnston Island.[248] Construction at TEAD neared 70% completion; however, more delays occurred due to redesign of the system in response to lessons learned at JACADS.[249]

Assistant Secretary of the Army Stephen K. Conver offered the following diatribe on how the CSDP ran into cost problems:

> . . . If you would be interested in that, I would be pleased to give you a short version of what I think are the acquisition procurement aspects of the CHEMDEMIL program . . . I think the way we have done the CHEMDEMIL program is a classic example of how you get into trouble on acquisition programs. We started out with a fairly uncertain requirement. We find ourselves

changing that requirement as we proceed down the acquisition path, or the military construction path. . . . As we spend money, we are changing requirements on a moving target. We start without a clear understanding of what the requirements are. We don't have a baseline, and we see that we are not going to change it. We are driven inordinately by schedule restraints.

The Congress has put a mark on the wall saying we have to achieve milestones by certain dates. In my experience . . . when you put that nail in the calendar, you just bring yourself the likelihood that you are going to spend a heck of a lot more money than you planned on spending.

Compounding the problem, I think is that we, because of the schedule constraints, we started the second plant in Utah [TEAD] before we had ironed our all the bugs in the first plant and incorporated the lessons learned against a schedule-driven requirement.

* * *

This program, I think it is fair to say is successful, as measured by two things. First of all, it is doing what it is supposed to do, and it is being done safely. I think that ought to be kept in perspective. The circumstances are very difficult, and it has cost a lot more money, more than a 100 percent

cost overrun; and I don't think any of us feel good about that. But we continue to work the problem and we are still trying to meet some semblance of a schedule that has been laid out by Congress. So we are doing the best we can.[250]

However, Representative Hopkins, Kentucky, who had invited Mr. Conver's opinion, responded with an attack upon the Army's "one size fits all" approach; openly admitting his parochial interests with respect to citizens of Richmond back in his district, he unabashedly placed classic NIMBY arguments on the record.[251]

In fact, although work progressed on cryofracture, CSEPP, and other aspects of the CSDP, the most notable event occurred in October 1992, with enactment of the DoD Authorization At for Fiscal Year 1993. The amendments passed may result in the first dramatic change to the concept plan since announcement of the ROD. In effect, Congress has called "time out," to reassess what should happen next.[252] The extensive amendments contained in Public Law 102-484 are summarized below:[253]

§171 extends the deadline for elimination of the stockpile to December 31, 2004

§172 establishes Chemical Demilitarization Citizens Advisory Commissions (one for each State with a low-volume site, i.e. Indiana, Kentucky, and Maryland)

§173 requires a report to Congress not later than December 31, 1993, concerning alternative

technologies as compared to the JACADS baseline disassembly and incinerator process

§174 requires use of an alternative technology at low-volume sites if the Secretary of the Army determines that use of that alternative process is significantly safer and equally more cost effective than the JACADS process;[254] and also authorizes use of alternative technology at other sites following notice to Congress

§175 requires submission of a revised concept plan, if alternative technology is selected for any low-volume site, the plan will include: (1) life-cycle cost estimates and schedules; and (2) a description of the facilities and operating procedures to be employed

§176 requires a report, not later than February 1, 1993, setting forth plans for the destruction of "nonstockpile" chemical warfare materiel that must be destroyed if the U.S. becomes a party to the CWC

§177 requires a report, not later than May 1, 1993, on the physical and chemical integrity of the chemical weapons stockpile

§178 expresses the sense of Congress that the State Department and DoD should establish an international technology exchange program to share information with other CWC signatories

§179 technical amendments for clarification

§180 defines "low volume site," as one of the three chemical weapons storage sites in CONUS at which there is stored 5% or less of the total United States stockpile of unitary chemical weapons (i.e. APG=5%, LBAD=1.6%, and NAAP=3.9%)[255]

Further, as if to add an exclamation point, the Defense Appropriations Bill deleted procurement funds for proposed facilities at APG, LBAD, and NAAP, and directed that no funds be obligated for facility procurement at ANAD, UMDA, and PBA until successful completion of OVT at JACADS.[256] The House Appropriations Committee expressed its continued interest in possible future uses;[257] meanwhile, the Senate Appropriations Committee, chaired by Senator Daniel Inouye, Hawaii, again expressed its "very strong opposition" to future use of the facilities.[258] In the same vein, the Senate report included a provision prohibiting expenditure of funds even to study the issue of transportation of stockpiled materiel from one site to another; however, the language allowed for the need to look at transportation options for the nonstockpile items required to be addressed the report referenced in Public Law 102-484, §176.[259]

Cryofracture also required some special attention in the Appropriation Committees guidance. The House continued to support the program, and even sought to plus up the account with an additional $4 million in planning and design funds for a demonstration facility under consideration for siting at PUDA, Colorado.[260] However, the Senate cited "Army indecision" regarding the future of a cryofracture facility and refused to go along with the additional allowance recommended by the House.[261] PUDA was left in limbo; as with the other non-low-level sites, no funds could be obligated to procure JACADS technology pending successful OVT. Further, because of its possible selection as the site for a cryofracture demonstration plant, only expenditures capable of supporting both JACADS and cryofracture (e.g. access roads) could be spent.[262]

8. CONCLUSION

The preceding discussion of program highlights and Congressional oversight should not necessarily establish where we go from here. Rather, what is demonstrated is that the CSDP stands at a crossroad. The next section will provide an overview of how NEPA, RCRA and the CAA remain significant in attempting to resolve the NIMBY stalemate. In that context, some site specific matters will also be addressed.

IV. ENVIRONMENTAL COMPLIANCE REQUIREMENTS

A. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The previous section introduced the Army's NEPA strategy as it unfolded chronologically. This section presents a modest

discussion of why NEPA is so important in the context of resolving the NIMBY stalemate.

In 1970, Congress enacted NEPA for the express purpose of requiring federal agencies to consider environmental concerns as a routine part of the decisionmaking process for major federal actions that have the potential to significantly affect the quality of the human environment.[263] NEPA created the "Council on Environmental Quality" (CEQ) within the Executive Office of the President. The CEQ established necessary procedures through formal rulemaking procedures and finalized the NEPA regulations in 1978.[264] The Army subsequently adopted its own agency specific rules.[265] Thus, even though the CSDP is mandated by federal legislation, decisions of how, when, and where to proceed are actions that require NEPA analysis.

As has already been discussed, plans for the disposal of corroding stockpiled chemical weapons initially entered the NEPA process before establishment of the CSDP, with announcement of the M55 rocket disposal program in 1984.[266] However, passage of Public Law 99-145, establishing the CSDP, broadened the scope by mandating destruction of the entire stockpile of unitary chemical agents and weapons.[267] Therefore, the Army decided to prepare a programmatic environmental impact statement (PEIS).

The Army coordinated its decision to proceed using a programmatic approach followed by tiered site-specific NEPA documents with the C.E.Q., and received an endorsement from then-Chairman, Mr. A. Alan Hill, who found such an approach ". . .

appropriate and consistent with the letter and spirit of the NEPA regulations."[268] Mr. Hill reiterated this endorsement on July 25, 1986, in testimony before the Investigations Subcommittee of the House Armed Services Committee, as follows:

> The Army has conducted an extensive scoping process. They have sought our advice on the use of a programmatic environmental impact statement and the tiering process, and to date, have followed that advice. Their approach to compliance with the National Environmental Policy Act is appropriate and consistent with the letter and spirit of the statute and regulations.[269]

Pertinent C.E.Q. regulatory guidance encourages a programmatic approach when actions are "connected," "cumulative," or sufficiently "similar" so that a PEIS is "the best way" to identify the environmental effects.[270] With respect to the CSDP, the programmatic approach made sense since the real issue was not whether to destroy the items, but how, when, and where--this initial NEPA inquiry needed to address materiel at all eight CONUS locations.

A secondary goal of NEPA is to provide a means by which the public is informed and can participate in the evaluation of proposed government actions.[271] NEPA is a procedural statue. As such, it offers no substantive protection to the environment, i.e. there are no pollution standards as there are in RCRA or the CAA; rather, NEPA simply describes a decision making process.

NEPA prohibits uninformed, as opposed to unwise, agency decisions (relative worth often being in the eye of the beholder).[272] Nevertheless, the requirement of public participation coupled with access to injunctive relief through federal courts combine to make adherence to NEPA a legitimate concern for federal decisionmakers.

As demonstrated by the Greenpeace litigation brought in response to the German retrograde operation, environmental groups are experienced NEPA litigators.[273] The current pause in CSDP implementation also delays any potential NEPA lawsuit that might be brought by NIMBY proponents at sites which have experienced the most opposition: APG, LBAD, and NAAP. Since site-specific EISs and RODs are still outstanding, potential plaintiff's lack standing. Courts will not review a draft EIS.[274]

The administrative record of decisionmaking for the CSDP is voluminous. The FPEIS includes a description of the Army's strategy for NEPA compliance.[275] Whether potential a plaintiff can convince a federal judge of the need for yet another study will only be answered if another lawsuit is brought to challenge a final decision. For now, NEPA remains a requirement that must be met before proceeding with implementation at APG, LBAD, and NAAP. In the NIMBY context, litigation is a card that has been bluffed, but has yet to be played. Even if the Army is sued again, the facts suggest such a suit would be more of a joker than a trump card. Carrying the analogy one step further, even if a plaintiff is successful in obtaining an injunction, it would

equate only to an opportunity to draw another card, not a winning hand.

B. RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

RCRA is a comprehensive pollution control and abatement statute. Originally enacted as the Solid Waste Disposal Act of 1965 (SWDA); amended as the Resource Conservation and Recovery Act of 1976; further amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA); and most recently amended by the Federal Facility and Compliance Act of 1992 (FFCA); RCRA is applicable to implementation of the CSDP.[276] The EPA has primary jurisdiction for RCRA enforcement, but is authorized to delegate its authority to the states.[277] Federal facilities are subject to state and local laws regulating solid and hazardous waste pursuant to a broad waiver of sovereign immunity.[278]

RCRA hazardous waste treatment permits are extremely technical and require extensive regulatory review prior to final issuance, e.g. the TEAD documentation consists of 14 binders of data.[279] As previously noted in the discussion of program implementation, the Army began submitting RCRA applications for planned incinerators in 1986;[280] however, to date only Utah and Arkansas have actually issued permits for CSDP facilities.[281]

In the context of NIMBY concerns, the permitting process includes public participation. First, there is a 45 day comment period, followed by a public hearing, upon request of any concerned citizen.[282] To date the problem has not been with the public, but rather with dilatory reviews. In 1991 Congress

amended the governing statute to allow DoD to provide some federal taxpayer dollars to help defray state costs incurred to draft and review the necessary permits.[283]

Also of concern an posing a distinct threat to CSDP's ability to qualify for the necessary permit is state legislation at some sites which appears to be deliberately designed to avoid issuance of permits.

1. KENTUCKY

In June 1992, the Office of Technology Assessment (OTA) published a report which notes a piece of legislation recently enacted in Kentucky.[284] The state law specifies that before "anyone" may construct or operate a facility for treatment, storage, or disposal of chemical warfare (CW) agents, he or she must first demonstrate:

> The proposed treatment or destruction technology has been fully proven in an operational facility of scale, configuration and throughput comparable to the proposed facility [to ensure] destruction [efficiency] of 99.9999 percent . . . as achievable during the design life of the facility under all operating conditions including during the occurrence of malfunctions, upsets or unplanned shutdowns.[285]

As OTA points out, this statute also requires monitoring data showing the "absence of emissions" that "present *any* risk of acute or chronic health effects."[286] The Kentucky statute cites RCRA's provision allowing states to impose "reasonable"

restrictions directly relating to public health and safety.[287] Another provision from the Kentucky statutes provides that no permit to construct a hazardous waste incinerator shall be issued if a local court or the local governing body disapproves the application.[288] These provisions do not bode well for Army plans at LBAD.

2. INDIANA

The State of Indiana, home of NAAP, has also seen fit to amend its permit provision by adding additional requirements for chemical munition destruction.[289] The Indiana statute specifically lists six chemical agent compounds, then sets forth additional permit requirements, including demonstration of 99.9999% treatment. Indiana also recites a "no emissions" monitoring requirement and very similar language pertaining to potential risk of acute or chronic human health effect.

3. MARYLAND

As of March 24, 1993, Maryland H.B. 1443, very similar to the Kentucky and Indiana statutes, had passed the House and is pending before the Senate's Committee on Economics and Environmental Affairs. Maryland also lists six agent compounds and also adds a catchall seventh, "any related compound."[290] The proposed bill requires a permit applicant to demonstrate that a 99.9999 efficiency rate is achievable. However, the sponsors of this bill have gone further and specify that no permit may issue unless the Maryland Department of the Environment finds "by clear and convincing evidence" that no reasonable alternative method

exists. Finally, no permit issued may be valid for more than 6 months, and renewals will be based on a mandatory review of monitoring data.

This proposal is not yet law, but if it is passed by the Senate and signed by the Governor, it may be necessary to challenge some of those provisions in court. There is a tremendous difference between the U.S. Congress directing the Program Manager to review alternative technologies, and a State trying to force a programmatic change through manipulation of a permitting procedure.

4. COLORADO

The State of Colorado has (perhaps soon to be had) exempted "any facility performing destruction of obsolete chemical munitions pursuant to international treaty" from its definition of a hazardous waste incinerator within the State Hazardous Incinerator Siting Act.[291] However, as of March 25, 1993, the House and Senate had passed Colorado House Bill 1156 which would eliminate that exemption. PUDA is still the planned site of either a cryofracture demonstration plant or a disposal facility based on the JACADS reverse assembly incineration technology. The signed act went to the Governor on March 31, 1993, and as of April 5, 1993 no further action is reflected in LEXIS.[292] If the act is signed and the exemption is lifted it will add an additional step to the permitting process for whichever design is selected for PUDA.

5. UTAH

As mentioned earlier, Utah cooperated in expediting review of a RCRA permit for TEAD's reverse assembly incinerator. However, the permit experience for cryofracture research with CAMDS was not as favorable.[293] Furthermore, as the June 1992 OTA report points out, in approving the TEAD disposal facility permit, the State limited operations to 50% of capacity for the first six months of each and every type of agent to be destroyed.[294]

6. CONCLUSION

In spite of all the coordinating meetings, no other permits have issued to date. The JACADS permit issued by the EPA in August 1985 and subsequent permit modifications have been available for comparison and review by state permit writers, as well as the permit prepared by Utah for TEAD. Congress generously made it possible for states to recoup the costs of drafting and reviewing the permits, but still no action. The current freeze on procurement fund obligations does not pertain to costs associated with the permitting process. A programmatic change to some alternative technology would not make this permit requirement disappear, it would simply result in the need to submit a new application.

C. CLEAN AIR ACT (CAA)

The Clean Air Act is another media-based statute, designed to improve air quality by reducing the amount of pollution being

emitted.[295] The EPA is still in the process if implementing state program requirements under the Clean Air Act Amendments of 1990; however, federal permitting regulations are in place.[296] As with RCRA, there is a broad waiver of sovereign immunity which means that the CSDP facilities are subject to state and local laws.[297]

For purposes of the discussion that will follow, all one must understand is that due to the toxic nature of the substances being destroyed, the fact that these facilities do have smokestacks (i.e. are point sources), and the fact that there will be some particulate emissions, a "permit to construct and operate" is required.[298] However, as previously discussed, APG does not need an air permit since Maryland has a qualified state program, and the state exempts applicants for RCRA hazardous waste incinerators from the CAA requirement.[299]

D. CONCLUSION

As seen in the chronological discussion of CSDP implementation, getting states to issue permits is a problem. Further, from the NIMBY perspective, getting these permits issued is only the first hurdle since "concerned citizens" may seek judicial review of agency decisions relating to issuance and enforcement of permits, subject to traditional abuse of discretion analysis.

Congress tried to help states by providing a mechanism for the federal government to off-set the costs involved in drafting, reviewing, and administering these permits. The Army has held numerous coordinating meetings all over the country, yet revised

permit packets are still held in bureaucratic limbo, now threatened by state legislation designed to frustrate plans to incinerate stockpiled materiel on-site.

Once all the required studies for 1993 have been reviewed and debated, a decision will ultimately have to be made. If NIMBY opponents eventually find that on-site incineration is still the preferred method, it may be necessary to consider federal legislation that returns permitting authority to the EPA. Congress waived sovereign immunity. Congress has the authority to reinstate federal preemption. Such drastic action may be necessary to accomplish the mission, particularly in light of certain state legislative enactments that subvert Congressional intent.

A proposed amendment designed to reestablish federal preemption in the limited context of the CSDP is provided at *Appendix IV*. The intent of this modest proposal is to return final authority for issuance and enforcement of the necessary permits to the EPA, while continuing to provide a meaningful role for state participation. Also included, as an inducement for states to act, is a grandfather clause that will preserve permits issued under existing law. Thus, states wishing to avoid federal preemption may elect to act on the applications they have been reviewing for the past six years.

This idea of federal legislation was discussed with Ms. Madeline Creden, Counsel to the Senate Armed Services Committee. Ms. Creden believes that such an amendment is not politically

feasible, but even if it were she would counsel against it.[300] Ms Creden intimated that at one point she and other staff personnel had considered the need for a uniform or standardized approach; developed by EPA and enforced by the states. She ultimately decided it would be best to let the Army pursue the permits through the working groups on a case-by-case basis.

NEPA requirements must be met. The RCRA requirements will not go away. Use of alternative technology will still involve "treatment," of hazardous waste; an activity that must be permitted. For the time being there is still plenty of flexibility, approximately eleven years (at the earliest) until the CWC deadline is at hand. However, procrastination will not destroy the stockpile. To assure mission accomplishment in compliance with an international obligation, states should be encouraged to process the applications more diligently.

V. ALTERNATIVE TECHNOLOGY

What will hopefully be the definitive report on alternative technologies is planned for release by the NRC in May 1993.[301] Meanwhile, two extensive reviews are available: 1)Greenpeace's *Alternative Technologies for the Detoxification of Chemical Weapons: An Information Document*,[302] and OTA's *Disposal of Chemical Weapons: Alternative Technologies--Background Paper*.[303]

The Greenpeace review is comprehensively details available technologies; in all, twenty-eight distinct processes are described.[304] These fall into the following broad categories:

biological, chemical, photochemical, electrochemical, neutralization, chemical reprocessing, and thermal.[305] Greenpeace applauds to goal, but takes exception with the means selected by the Army, finding that incineration constitutes an unacceptable threat to the environment and people indigenous to the area.[306] Greenpeace suggests a multi-phased approach. First, deactivate the weapons; then detoxify the chemical agent. The strongest recommendation suggests that whatever process is employed, it should operate in a totally contained facility allowing *no* release of any toxic material whatsoever into the environment.[307]

The OTA report reviews many of the processes discussed in the Greenpeace publication, and notes that Greenpeace avoided endorsement of any specific technology option.[308] OTA further points out that many of the technologies proposed by Greenpeace would address only the chemical agent component, whereas, the JACADS incineration process handles the entire wastestream (drained and empty munitions and containers, associated explosives and propellants, and munition packing dunnage).[309] OTA observes:

> The prospects for success of an alternative program are not assured. . . Therefore, if an alternative development program was supported it would not necessarily follow that the current should be stopped. It may be possible to combine the best features of both programs in the future, or it may be that current

technologies will be superior to any alternatives in the end.[310]

OTA's background paper examines six alternatives: chemical neutralization, supercritical water oxidation, steam gasification, plasma arc pyrolysis, improved interim continued storage (very short-term possibility in light of the CWC provisions), and transportation and relocation of portions of the stockpile for off-site destruction at a regional or national facility.[311]

Finally, based on discussions at a one-day workshop, held February 24, 1992, OTA staff concluded, and workshop participants agreed, ". . . that none of the alternatives to the current Army program, that have been proposed by various individuals or groups, could be expected to be available soon for destruction of the stockpile."[312] Hopefully the NRC will resolve the issue of alternative technology to the satisfaction of Congress, even if not to the satisfaction of everyone. In a letter report issued June 10, 1992, the NRC's Committee on Review and Evaluation of the Army Chemical Stockpile Disposal Program concluded that JACADS incineration and abatement system is an adequate technology for present operations.[313] Although some technical process recommendations were provided, the primary conclusion found that JACADS incineration followed by an appropriate gas cleanup is a safe and effective technology for the task at hand.[314]

AEA Technology, part of the U.K. Atomic Energy Authority (AEA), has developed a process known as "Silver 2," which reduces chemicals back to their basic elements.[315] Although expensive, it is regarded as environmentally friendlier than incineration, and may be applicable to chemical weapons disposal. This technology employs a silver based electrochemical oxidation process. Dr. David Steele, a research chemist at Dounreay Nuclear Establishment in Caithness, Northern Scotland, said he was contacted by someone from then-President-elect Clinton's staff, who requested a briefing.[316] AEA Technology officials are still negotiating a licensing agreement with an undisclosed American company, and the technology will be assessed in the NRC report.

Another proposed alternative, and rather novel idea, comes from Mr. Vladimir B. Dmitriev, President of Chetek, who conducted a marketing blitz throughout the United States in April 1991.[317] Mr. Dmitriev suggests that the world will get a double bang for the buck if chemical weapon stocks are destroyed in underground nuclear explosions. Chetek received an endorsement from Vikto N. Mikhailov, the former Soviet Deputy Minister of Atomic, Energy, and Industry. The firm proposes to destroy all sorts of hazardous waste, charging by the kilogram with rates rising in relation to the danger posed by the waste being destroyed. Christopher E. Paine, a senior research consultant with the Natural Resources Defense Council, characterized the plan as "have bomb will travel," criticizing weapons proliferation

implications as well as the utter disregard for the environment.[318]

Whether or not one takes Chetek's proposal seriously, it does point up another aspect of the alternative technology issue which is increasingly important in the post-Cold War era. In the wake of the CDSP search for alternatives and the CWC's mandate, there is a tremendous market for destruction rather than production.[319] As one headline puts it, "Chemical Arms Destruction Race Is On." [320]

The findings of the NRC report will be crucial, especially a the low-volume sites which are now specified for use of alternative technology if at all possible.[321] However, editorial advice from the *Christian Science Monitor* given in May 199 still seems valid:

> None of us would choose to have chemical weapons incinerated in our neighborhood, and it's not surprising that residents living near some of the U.S. Army's chemical-weapons production [sic storage] facilities are alarmed about plans to destroy those weapons in place. But their concerns appear to be overblown. The disposal techniques adopted by the Army entail few if any demonstrated hazards. Alternative procedures either bear their own considerable risks or would delay the destruction for years.

* * *

> The best course is to stick with a far-down-the-road plan using a relatively mature disposal technology, rather than send the Army back to the drawing boards on the basis of understandable, but nonetheless unsubstantiated speculations by the weapons plants' neighbors and some environmentalists.[322]

In sum, alternative technology has promise, the question is how long can we afford to wait? This country had the creative genius to put a man on the moon; certainly, the destruction of a special kind of hazardous waste is a problem within the capacity of our best and brightest engineers.

NIMBY neighbors must be prepared to accept that the NRC scientists examining this issue may again conclude that on-site incineration is the best alternative. If other alternatives are not able to meet all the criteria specified by Congress, then incineration will move forward. Once all the facts have been distilled by the independent experts, the debate should end. Then, hopefully, the Army will be able to proceed in accordance with the Congressional mandate to destroy the stockpiled items in a safe and environmentally sound manner.

VI. PRESIDENTIAL EXEMPTION

Before addressing my "reasoned response," the availability of an escape clause in RCRA and the CAA is duly noted. As a practical matter, these provisions are not politically viable options;[323] nevertheless, they are part of the body of law and could be invoked if proper circumstance arise. RCRA provides for

an exemption as follows: "The President may exempt . . . from compliance with such a requirement if he determines it to be in the paramount interest of the United States to do so . . ."[324] The duration of any exemption so granted is limited to one year at a time, and the President must report the circumstances and reasons to Congress. The CAA provision is quite similar: "The President may exempt any emission . . . if he determines it to be in the paramount interest of the United States to do so . . ."[325] Also limited to one year and requiring an annual report to Congress. In addition, the CAA has another clause with distinctly military applications for equipment that is "uniquely military in nature."[326]

Again, it is emphasized that use of this authority is not anticipated. The CSDP is a high visibility project with substantial NEPA history. In spite of delays in the permitting process, there is plenty of time to complete the mission in accordance with Congressional guidance and in compliance with all applicable environmental requirements. Absent a true emergency, (e.g. an unexpected deterioration of a portion of the stockpile), there is no reason to exercise this option.

VII. CONCLUSION: A REASONED RESPONSE

> *I am frustrated with the slow progress being made in eliminating chemical weapons. While Congress, the Pentagon, and local communities wrangle over incineration versus cryofracture, or on-site versus off-site destruction, volatile unitary chemical*

munitions slowly corrode. It's time to fish or cut bait before an accident turns urgency into panic.[327]

Senator Alphonse M. D'Amoto, New York

May 12, 1992

A world free from the fear of chemical weapons; that is the dream of former-President George Bush. A means by which to destroy the chemical stockpile: safe, efficient, and environmentally sound; that is the mandate of the Chemical Stockpile Disposal Program. Most rational persons can accept these fundamentals as self-evident. If those persons who live near the eight locations where the chemical weapons are stored would take a step back, they too would probably agree, excellent idea, make it happen. The problem is that when those people look, they look over their shoulder and say,"not in my backyard."

Recall the initial discussion of chemical warfare: soldiers to terrified on the battlefields of WWI that military police had to stand at the rear of an advancing unit to control those stragglers afflicted with "gas fright." Understand that at the height of the domestic production effort during WWI, three civilian workers died and over 900 suffered gas casualties at Edgewood, Maryland.[328] Understand further that in Richmond, Kentucky, in 1979 there was a "cloud incident" at the Lexington-Bluegrass Army Depot that caused some nearby residents to seek medical attention with complaints of burning eyes, nausea, and breathing difficulties--the Army initially denied responsibility and later admitted burning some WWII era smokepots in an unsafe

manner. Recall also the television reporters fumbling to don their protective masks while covering the Persian Gulf War.

Whether rational or irrational, most humans are terrified by the thought of being subjected to chemical warfare materiel. The response that is most necessary in resolving the NIMBY stalemate is the need to separate fact and fiction. The public participation process of NEPA as well as the permitting process for RCRA and the CAA are designed to make information available to the public. The quality of the information provided will ultimately determine the outcome.

The Army must continue its concerted effort to compile the necessary information, and publish it in a an easily understandable manner. Congress has provided ample resources. NEPA compliance and CSEPP initiatives are probably the most effective vehicles through which to reach the public at large. However, to succeed, the Army must also convince community and government leaders that the program is based on hard facts which translate to safety.

Intellectual honesty will go a long way toward bridging the gap. Two key events allow for uncluttered thought processes: First, there is no longer any linkage between binary production and unitary destruction, i.e. no ulterior motive for rushing the program. Second, there is no longer an artificial deadline; the statute which governs destruction is linked to a pending treaty obligation that is more than ten years ahead--plenty of time to do the right thing in a safe and efficient manner.

Whatever the result of the soon to be released National Research Council report on alternative technologies, information from those scientific experts must be effectively communitcated at the federal, state, and local levels. If on-site destruction is not recommended by the NRC, the Army must immediately fall in line to prepare the necessary NEPA documents and RCRA application (as well as any other compliance requirements),

If on-site incineration is once again selected, it is time for Congressional leaders to step in and back the program wholeheartedly. Most NIMBY opponents are so wed to their position that their minds will never be changed, such is the selfish nature of NIMBY logic. However, responsible leaders must turn to the big picture and support a program that is the vital link to compliance with the Chemical Weapons Convention. There is no proper leadership role for demagoguery, espousing NIMBY philosophy to pander to voters back home while knowing full well that the NIMBY arguments do not pass the science test.

Similarly, once the current "time out" has lapsed and a revised concept plan consistent with the NRC report and other Congressional guidance is prepared, responsible permitting officials should be reminded of the international significance of the program. There must be a new sense of urgency. Congress has provided funding so that states will be able to hire the necessary personnel to support drafting and review of permits. "Regulatory gridlock" cannot be tolerated. Furthermore, if the measures enacted by state legislatures in Kentucky and Indiana

(and as proposed in Maryland) prove to be thinly veiled NIMBY guarantees, Congress should seriously consider amending federal law so as to assert federal primacy.

I submit that the draft legislation included at Appendix IV would send an appropriate message to the states. The purpose is not so much a desire to avoid state regulation, as to inspire action on permits that have languished for more than six years. The coordination meetings should continue, but sooner rather than later, regulators must get around to issuing permits.

Reason demands action in getting the CSDP back on track. Consider this somewhat farfetched, yet plausible scenario: The year is 2004. Saddam Hussein still rules Iraq, and Iraq has been welcomed back into the family of nations after complying fully with U.N. Security Council resolutions, including the destruction of all chemical weapons and related materiel; moreover, Iraq is now a signatory to the Chemical Weapons Convention that went into full force and effect in 1995. You are the U.S. Ambassador to the United Nations and you are seated between the Russian and Iraqi delegations. Russia completed underground nuclear destruction of all of its chemical weapons in 1999. In fact, all other nations who are Parties to the CWC have completed destruction of their chemical weapons materiel well in advance of the approaching deadline. You must rise to explain why the United States needs a five year extension to complete the destruction of aging weapons stored at APG, LBAD, and NAAP--the reason is that RCRA permits have not yet been issued . . .

Senator D'Amato is absolutely correct, "it's time to fish or cut bait." The CSDP's mission is difficult enough without having to face irrational, illogical, and irresponsible NIMBY arguments from people who know exactly what the scientists have said, but choose to ignore hard facts in favor of political expediency. Furthermore, in recognition of the difficulties in presenting this information to an often unreceptive public, Congress should stop rethinking options for "future uses;" as this only serves to undercut the credibility of the entire program. A better way to recoup to of the costs of this program would be to sell the incinerators to private industry rather than destroy them in packman-like fashion.

A reasoned response requires leadership from the top. At first blush one might look at the outcome of the 1992 Presidential election and conclude that given former President Bush's commitment to the CWC, there will be a letdown of some sort. However, there are two reasons for optimism that the Clinton Administration will accept the challenge of managing the CSDP through to mission accomplishment. First, Vice President Al Gore is a recognized environmental expert, very capable of understanding the technical data and scientific material that support the incineration option. If he decides to be intellectually honest, he can help to convince affected persons that the preferred alternative is in fact safe and is the best way for our nation to meet the impending treaty obligation. Second, President Bill Clinton served as Governor of Arkansas

throughout the successful BZ disposal effort at Pine Bluff. So the President also is uniquely qualified to be an advocate for this important program.

In the final analysis, the reasoned response must be a reasonable response, and the best way to reach a just decision is to stay true throughout the NEPA process. In the end, there may be some bruised feelings, or more likely some bruised egos. However, if leaders make informed decisions based on the best available information, the preferred alternative will render a safe program that in turn will render safer communities and a safer world. If the NEPA process runs its course without undue influence, leadership will triumph over litigation. Reason, not selfish reasons, should ultimately determine how to complete this mission.

ENDNOTES

1. THE FEDERALIST NO. 4, at 47-48 (John Jay) (Clinton Rossiter ed., 1961).

2. THE FEDERALIST NO. 46, at 296 (James Madison) (Clinton Rossiter ed., 1961).

3. Draft Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on Their Destruction, Sept. 3, 1992, *extracted from* U.N. Doc. CD/1173 (1992) [hereinafter CWC]; William Drodziak, *Historic Treaty Bans Chemical Weapons*, WASH. POST, Jan. 14, 1993, at A24.

4. President George Bush, America Must Remain Engaged, Address at Texas A&M University (Dec. 15, 1992), in DEP'T ST. DISPATCH, Dec. 21, 1992, Vol. 3, No. 51.

5. "Community opposition in Kentucky is particularly strong and well organized. . . . these citizens are prepared to do whatever it takes (including taking legal action) to halt on-site incineration plans." U.S. CONGRESS, GENERAL ACCOUNTING OFFICE, Obstacles to the Army's Plan to Destroy Obsolete U.S. Stockpile, GAO/NSIAD-90-155, at 25 (1990) [hereinafter GAO REP. NO. 90-155].

6. Record of Decision, Chemical Stockpile Disposal Program, 53 Fed. Reg. 5816-02 (1988) [hereinafter ROD CSDP 1988].

7. GREENPEACE INTERNATIONAL, ALTERNATIVE TECHNOLOGIES FOR THE

DETOXIFICATION OF CHEMICAL WEAPONS: AN INFORMATION DOCUMENT (1991) [hereinafter GREENPEACE ALT. TECH. (1991).

8. "Utah is threatened by a proliferation of waste incinerators with an overall capacity far beyond the State's own needs. A total of 19 facilities, including hazardous waste incinerators, nerve and munitions incinerators, medical waste incinerators, cement kilns, and a garbage incinerator, have either received permits or have submitted applications to burn various types of wastes in Utah. All of them in beautiful unspoiled Utah." 137 CONG. REC. H6648 (daily ed. Sept. 17, 1991) (statement of Rep. Owens).

9. 50 U.S.C. §1521 (1988) (originally enacted Nov. 8, 1985, specifying a stockpile elimination deadline of Sept. 30, 1994), amended by, *Pub. L. No. 102-484, Div. A, Title I, §171, 106 Stat. 2341 (extending the stockpile destruction deadline through Dec. 31, 2004, or alternatively providing that if a treaty banning the possession of chemical agents and munitions is ratified by the United States, the date for completing destruction of the United States' stockpile of such agents and munitions shall be the date established by such treaty).*

10. WILLIAM MOORE, GAS ATTACK 2 (1987).

11. R. ERNEST DUPUY & TREVOR N. DUPUY, THE ENCYCLOPEDIA OF MILITARY HISTORY FROM 3500 B.C. TO THE PRESENT 917 (2d rev. ed. 1986).

12. L.F. HABER, THE POISONOUS CLOUD 34 (1986).

13. VALERIE ADAMS, CHEMICAL WARFARE, CHEMICAL DISARMAMENT 37 (1990).

14. Id. at 39.

15. HABER, supra note 12, at 243.

16. MOORE, supra note 10, *Appendix 'D'* at 248.

17. HABER, supra, note 12, at 243, *reference to* A.M. PRENTISS, CHEMICALS IN WAR (1937).

18. MOORE, supra note 10, at 193.

19. ADAMS, supra note 13, at 37.

20. HABER, *supra* note 12, at 258.

21. VICTOR A. UTGOFF, THE CHALLENGE OF CHEMICAL WEAPONS: AN AMERICAN PERSPECTIVE 10 (1990).

22. *Id.* at 10.

23. *Id.* at 27-32.

24. MOORE, *supra* note 10, at 223.

25. UTGOFF, *supra* note 21, at 69-87.

26. S. HRG. NO. 252, 101st Cong., 1st Sess. 31 (1989) (testimony of William H. Webster, Dir., C.I.A.); S. HRG. NO. 744, 101st Cong., 1st Sess. 10-12 (1989) (testimony of William H. Webster)

and 43-45 (testimony of Dr. Robert Mullen Cook-Deegan and Dr. Victor Sidel, Physicians for Human Rights); *contra*, STEPHEN C. PELLETIERE, STRATEGIC STUDIES INSTITUTE, U.S. ARMY WAR COLLEGE, IRAQI POWER AND U.S. SECURITY IN THE MIDDLE EAST(1990), *quoted in*, Joan Mower, *Army Study Says Saddam Has Broad Support in Iraq*, AP, Dec. 17, 1990, *available in* LEXIS, Nexis Library, AP File.

27. *No Evidence Chemical Weapons Used on Azerbaijan*, REUTERS, July 28, 1992, *available in* LEXIS, Nexis Library, Reuter File.

28. Helen Womack, *Georgians Braced for Invasion*, THE INDEPENDENT, Aug 24, 1992, *available in* LEXIS, Nexis Library, Newspaper File.

29. H.R. REP. NO. 81, 99th Cong., 1st Sess., at 17-19 (1985), *reprinted in* 1985 U.S.C.C.A.N. 479-481; *see also*, H.R. CONF. REP. NO. 235, 99th Cong., 1st Sess. at 485-488 (1985), *reprinted in* 1985 U.S.C.C.A.N. 638-641 (including a provision not adopted that would have authorized a study of new technology and the feasibility of establishing a national destruction site within or outside the continental United States).

30. UTGOFF, *supra* note 21, at 3.

31. 1899 Hague Declaration Prohibiting Projectiles and Gases, July 29, 1899, 187 Parry's T.S. 453, *quoted in* Paul G. Cassell, *Establishing Violations of International Law: "Yellow Rain" and the Treaties Regulating Chemical and Biological Warfare*, 35 STAN. L. REV. 259, 259 n.5 (1983); *see also*, H.A.S.C. NO. 2, 99th Cong.,

2d Sess. 1129 (1985) (prepared statement of David F. Emery, Deputy Director, Arms Control and Disarmament Agency) (discussing the chemical weapons threat posed by the U.S.S.R).

32. Annex to Hague Convention No. IV, Regulations Respecting the Laws and Customs of War on Land, October 18, 1907, 36 Stat. 2295, T.S. 539, *reprinted in* DEP'T OF ARMY, PAMPHLET 27-1, TREATIES GOVERNING LAND WARFARE 12 (7 Dec. 1956)[hereinafter DA PAM. 27-1].

33. Treaty of Peace with Germany (Treaty of Versailles), June 28, 1919, Germ.--Allied and Associated Powers, art. 171-172, 2 Bevans 119 [hereinafter Treaty of Versailles].

34. 23 ENCYCLOPAEDIA BRITANNICA 554 (1973).

35. 22 ENCYCLOPAEDIA BRITANNICA 1004 (1973).

36. Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 94 L.N.T.S. 65 [hereinafter Geneva Protocol].

37. ADAMS, *supra* note 13, at 49-50.

38. Geneva Protocol, *supra* note 36, at 571 (Note that approximately one month earlier the United States signed the Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and

on their Destruction, April 10, 1972, 26 U.S.T. 583, 11 I.L.M. 309.)

39. Exec. Order No. 11850, 3 C.F.R. 980-981 (1971-1975 Comp.), *reprinted in* 50 U.S.C. §1511 (1988).

40. DUPUY AND DUPUY, *supra* note 11, at 1256; Abstract, N.Y. TIMES, Nov. 26, 1969, p.1, col. 8, LEXIS, Nexis Library, Archives File; *see also* David F. Emery, *supra* note 31, at 1130 (testifying about the fact that President Nixon made the decision to curtail production of unitary chemical munitions).

41. U.S. DEP'T ST., TREATIES IN FORCE 325 (1992) (current through Jan. 1, 1992).

42. U.S. ARMS CONTROL AND DISARMAMENT AGENCY, CHRONOLOGY OF EVENTS LEADING TO THE SIGNING OF THE CHEMICAL WEAPONS CONVENTION (1993) [hereinafter Chronology].

43. *Id.*

44. STEVEN R. BOWMAN, CONG. RES. SERV., THE LIBR. OF CONG., CHEMICAL WEAPONS: U.S. ARMS CONTROL NEGOTIATION AND DESTRUCTION 8 (1992).

45. CHRONOLOGY, *supra* note 42.

46. *See generally*, Mark D. Budensiek, *A New Chemical Weapons Convention: Can it Assure the End of Chemical Weapon Proliferation*, 39 NAV. L. REV. 15 (1990) (expressing skepticism).

47. THOMAS STOCK & RONALD SUTHERLAND, STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, NO. 11 NATIONAL IMPLEMENTATION OF THE FUTURE CHEMICAL WEAPONS CONVENTION 3 (1990).

48. CHRONOLOGY, *supra* note 42.

49. *Id.*

50. STOCK & SUTHERLAND, *supra* note 47, at 3.

51. Exec. Order No. 12502, 3 C.F.R. 331, 332 (1985 Comp.), *revoked by* Exec. Order No. 12534, 3 C.F.R. 391, 392 (1985 Comp.) (abolishing the Commission along with others whose work was completed); *see also* H.R. REP. NO. 81, 99th Cong., 1st Sess. 17 (1985) (discussing Congressional support for a chemical warfare deterrent in light of Soviet intransigence and accelerating chemical weapons proliferation).

52. President's Message to Congress Transmitting Certification Required for the Binary Chemical Weapons Program, 1986 PUB. PAPERS 1008 (July 29, 1986).

53. CASPAR WEINBERGER, U.S. DEP'T DEF., ANNUAL REPORT TO CONGRESS, FISCAL YEAR 1987 297-298 (1986), *microformed on* Sup. Docs. No. D1.1:987 (U.S. Gov't Printing Office).

54. ADAMS, *supra* note 13, at 184-186; *see also Dep't of Def. Approp. for 1987 Hearings Before a Subcomm. of the Comm. on Approp. House of Representatives*, Part 3, 99th Cong., 2d Sess.

705 (1986) (statement of Dr. Thomas J. Welsh, Dep. Asst. to the Sec. Def.) (commenting on Soviet reaction to the actual move by Congress to modernize U.S. chemical weapons).

55. Kevin Quigley, *Recapturing the Chemical Weapons Genie*, CHRIST. SCI. MON., Feb. 9, 1989, at 18; Charles C. Floweree, *It Won't Be Easy to Police a Ban on Poison Gas*, NEWSDAY, Jan. 18, 1989, at 57.

56. UTGOFF, *supra* note 21, at 123; *see also*, Michael R. Gordon, *Paris Conference Condemns the Use of Chemical Arms*, N.Y. TIMES, Jan. 12, 1989, at A1.

57. *Id., at 124.*

58. The Final Declaration of the Conference of States Parties to the 1925 Geneva Protocol and Other Interested States on the Prohibition of Chemical Weapons, Jan. 11, 1989, 28 I.L.M. 1020 (1989); *see also*, OFFICIAL TEXT OF THE UNITED NATIONS GENERAL ASSEMBLY, CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, STOCKPILING AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION (1992)(1992), *reprinted in* U.S. ARMS CONTROL AND DISARMAMENT AGENCY, OFFICE OF PUBLIC AFFAIRS, PRESS RELEASE, Nov. 30, 1992 (incorporating language from the Declaration).

59. Richard A. Clarke, Statement to the International Government-Industry Conference Against Chemical Weapons at Canberra, Australia (Sept. 19, 1989), *in* DEP'T ST. BULL., Nov.

1089, at 45 (head of the U.S. delegation and Asst. Sec. for Politico-Military Affairs).

60. *Id.*

61. Memorandum of Understanding Regarding a Bilateral Verification Experiment and Data Exchange Related to Prohibition of Chemical Weapons, Sept. 23, 1989, U.S.-U.S.S.R., 28 I.L.M. 1438 (1989) [hereinafter Jackson Hole MOU].

62. Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons, June 1, 1990, U.S.-U.S.S.R., 29 I.L.M. 934 (1990) [hereinafter Washington Summit Agreement]; *see also*, David Perlman, *US, Soviets Ready to Cut Chemical-Arms Stockpiles*, S.F. CHRON., May 31, 1990, at A14, *available in* LEXIS, Nexis Library, Major Papers File (hailing the bilateral end to production and beginning of destruction).

63. Washington Summit Agreement, *id.*, at 935. (Note: The subsequent break-up of the Soviet Union has delayed Russian implementation, but President Boris Yeltsin has expressed support for the CWC and has actively sought U.S. monetary assistance to assist with chemical and nuclear disarmament. *See Appendix* to S. HRG. NO. 102-719, Chemical Weapons Ban Negotiation Issues Before the Committee on Foreign Relations U.S. Senate, *102nd Cong., 2d Sess.*, 38 (1992) (response to the Comm. of Amb. Stephen J. Ledogar, U.S. Rep. to UN Conf. on Disarm., Geneva); S. REP. NO.

384, 101st Cong., 2d Sess. 85 (1990); *see also* AP, *U.S. to Start Destroying Chemical Weapons Early*, CHI. TRIB., June 5, 1990, at 2, *available in* LEXIS, Nexis Library, Major Papers File (noting that it is unlikely that the Soviets will be able to begin by Dec. 31, 1992 because environmental protestors caused the government to shut down its only destruction facility, at Chapayevsk on the Volga River).

64. H.R. REP. NO. 527, 102nd Cong., 2d Sess. 90 (1992).

65. BOWMAN, *supra* note 44, at 11.

66. 138 CONG. REC. E1359 (daily ed. May 12, 1992) (statement of Rep. McMillen); *see also*, *BBC*, Unsolved Problems of Former U.S.S.R. Hamper Chemical Weapons Disarmament, BBC SUM. OF WORLD B'CAST, Apr. 30, 1992, *available in* LEXIS, Nexis Library, International News File (discussing implementation problems in Russia).

67. 50 U.S.C. §1521(b)(2) (1988); S. REP. NO. 352, 102nd Cong. 2d Sess. 65 (1992).

68. CWC, *supra* note 3, at 50.

69. DEP'T OF DEF. REGULAR BRIEFING, FED. NEWS SERV., Jan. 5, 1993, *available in* LEXIS, Nexis Library, Omni File.

70. U.S. ARMS CONTROL AND DISARMAMENT AGENCY, OFFICE OF PUBLIC AFFAIRS, FACTSHEET, THE CHEMICAL WEAPONS CONVENTION, Jan. 5, 1993; *construed in*

Chemical Weapons Convention, DEP'T ST. DESPATCH, Jan. 18, 1993, Vol. 3, No. 51, at 27.

71. "An extension of a State Party's destruction program for up to five years is possible, but not automatic. It must be approved by the Conference of States Parties which will set conditions under which the extension may be granted, including specific verification measures and actions to mitigate the delay." U.S. ARMS CONTROL AND DISARMAMENT AGENCY, OFFICE OF PUBLIC AFFAIRS, OCCASIONAL PAPER, Jan. 5, 1993; *see also* Judith Perera, *Disarmament: Russian Appeal on Chemical Warfare Treaty*, INTER. PRESS SERV., Jan. 12, 1993, *available in* LEXIS, Nexis Library, International Group File (discussing how a concession was granted to enable Russia to sign, i.e. the provision for an extension of up to five years in special cases).

72. CWC, *supra* note 3, at 45.

73. Brad Roberts, *Arms Control and the End of the Cold War*, 15 WASH. Q. 36 (1992), *available in* LEXIS, Nexis Library, The Washington Quarterly File.

74. CWC, *supra* note 3, art. VIII, at 26.

75. *Quoted in Chemical Weapons Convention Signing Ceremony Opens in Paris*, AGENCE FRANCE PRESS, Jan. 13, 1993, *available in* LEXIS, Nexis Library, International Group File.

76. Patrick Worsnip, *Over 120 States Sign Chemical Weapons Pact*, REUT. LIBR. REP., Jan. 15, 1993, *available in* LEXIS, Nexis Library, Omni File.

77. Lawrence Eagleburger, Chemical Weapons Convention Signing Ceremony, Remarks Upon Signing the Chemical Weapons Convention, Paris, France (Jan. 13, 1993), *in* DEP'T ST. DISPATCH, Jan. 18, 1993, Vol. 4, No. 3, at 26.

78. Ruth Sinai, *Syria Believed to Match Iraq in Chemical Weapons*, A.P., Nov. 19, 1990, *available in* LEXIS, Nexis Library, Associated Press File; *see also*, S. HRG. 101-252, *supra* note 26, at 30-31 (statement of William Webster, Dir., C.I.A.) (discussing chemical weapons capabilities of Iran, Iraq, Libya, and Syria).

79. Gerald Steinberg, *Test Case for Arms Control*, JERUSALEM POST, Jan. 21, 1993, *available in* LEXIS, Nexis Library, International Group File.

80. *Id.* (Steinberg also discusses the longheld view of Israeli political and military leaders that the Nuclear Non-Proliferation Treaty is counterproductive and dangerous in the context of the Middle East; thus, a major concern when the Israeli government decided whether to sign the CWC was whether they may be embarking on a "slippery slope" that could ultimately force surrender of Israel's ultimate deterrent against conventional attack.)

81. Sven Kraemer, *START--Advise, Don't Consent*, NAT'L INTEREST (Fall 1992), *reprinted in* 138 CONG. REC. S 15538, S 15542 (daily ed., Sep. 29, 1992) (statement of Sen. Wallop) (asserting that the CWC is another flawed arms control agreement that is wholly unverifiable).

82. 138 CONG. REC. E 3157, E 3158 (daily ed., Oct. 9, 1992) (statement of Rep Fascell); 138 CONG. REC. E 2951, E2951-2952 (daily ed. Oct. 3, 1992) (statement of Rep. Fascell); 138 CONG. REC. S 3756 (daily ed., Mar. 17, 1992) (statement of Sen. McCain); *see generally*, S. HRG. 719, 102nd Cong., 2d Sess. (1992) (particularly insightful with respect to views of private industry); H. REP. NO. 93, Part 1, 102d Cong., 1st Sess. 4 (1991).

83. Act of Oct. 23, 1992, Div. A, Title I, PUB. L. NO. 102-484, §176, 1992 U.S.C.C.A.N. (106 Stat.) 2315, 2345-2346 (requiring a report on destruction of nonstockpile chemical material consistent with the requirements of the draft CWC) [hereinafter DOD AUTH. ACT FY 93]; S. REP. NO. 352, 102nd Cong, 2d Sess. 67-68 (1992); H. R. REP. NO. 95, 102nd Cong., 1st Sess. (1991), *available in* LEXIS, Legis Library, Committee Reports File.

84. Act of Nov. 8, 1985, Title XIV, §1412, Pub. L. No. 99-145, 99 Stat. 583 (1985) (current version at 50 U.S.C. §1521 (1988), *amended by* 50 U.S.C. §1521(a), (c), and (h) (Supp. II 1991), *further amended by* Act of Dec. 5, 1991, Div. A, Title I, §151, Pub. L. No. 102-190, 105 Stat 1290, 1313 (1991) (amending 50

U.S.C. §1521(b)(5) and (c)(3)), *further amended by* Act of Oct. 23, 1992, Div. A, Title I, §§171-180, Pub. L. No. 102-484, 1992 U.S.C.C.A.N. (106 Stat.) 2315, 2341-2347 (1992) (amending 50 U.S.C. §1521(b)(5) and establishing other substantive requirements to be codified at 50 U.S.C. §1521).

85. COMMITTEE ON DEMILITARIZING CHEMICAL MUNITIONS AND AGENTS, NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY OF SCIENCES, DISPOSAL OF CHEMICAL MUNITIONS AND AGENTS 20-21 (1984) [hereinafter NRC Report 1984]; *see also*, Lawrence E. Rouse, *The Disposition of the Current Stockpile of Chemical Munitions and Agents*, 121 MIL. L. REV. 17 (1988) (discussing the CWDP's historical roots and the preliminary steps for implementation).

86. Marine Protection, Research and Sanctuaries Act of 1972, Pub. L. No. 92-532, 86 Stat. 1052 (1972) (codified as amended at 33 U.S.C. §1401 (1988) and 16 U.S.C. §1431 (1988)).

87. Stephanie Simon, *Fears Rise Over Nazi Weapons Leaking at Bottom of the Baltic*, L.A. TIMES, July 18, 1992, at A3 (quoting Soviet Green Party scientists who allege that 300,000 tons of captured Nazi weapons were secretly dumped by the Allies), *available in* LEXIS, Nexis Library, L.A. Times File.

88. U.P.I., *Federal Judge Asked to Block Weapon Transfer*, CHRIST. SCI. MON., Aug. 22, 1990, at 6; *Greenpeace USA v. Stone*, 748 F. Supp 749 (D. Haw. Sept. 28, 1990), *appeal dismissed as moot* 924 F.2d 175 (9th Cir. 1991).

89. *AD HOC* ADVISORY COMMITTEE OF THE NATIONAL ACADEMY OF SCIENCES, DISPOSAL HAZARDS OF CERTAIN CHEMICAL WARFARE AGENTS AND MUNITIONS (1969), *quoted in* NRC REPORT 1984, *supra* note 85, at 20.

90. NRC REPORT 1984, *supra* note 85, at 20-21; *see also* S. HRG. NO. 636, Part 3, 102nd Cong. 2d Sess. 823 (1992) (prepared statement of Mrs. Susan Livingstone, Asst. Sec. of Army (IL&E)) (discussing background of the CSDP); Amb. Max L. Friedersdor, Chemical Weapons Disposal Program, Statement at the Conf. on Disarm. in Geneva (Apr. 4, 1989) in DEP'T ST. BULL., June 1989, at 19-20.

91. H.A.S.C. NO. 45, 99th Cong., 2d Sess., 27 (1986) (statement of Brig. Gen. Nydum, Program Manager for the Chemical Demilitarization Program) [hereinafter H.A.S.C. NO. 45 (1986), with specific reference to the page number and name of the individual giving testimony].

92. *Id.*

93. NRC REPORT 1984, *supra* note 85, at 21.

94. H.A.S.C. NO. 45 (1986), *supra* note 91, at 27 (statement of Brig. Gen. Nydum); *see generally* ,S. HRG. NO. 102-636, Part 394.2298
, *supra* note 90, at 823-824 (prepared statement of Mrs. Livingstone).

95. "Considering the advantages and disadvantages . . . thermal

destruction is the preferred means of disposing of chemical agents and munitions." NRC REPORT 1984, *supra* note 85, at 6.

96. 50 U.S.C. §1519a (1988).

97. CASPAR WEINBERGER, DEP'T DEF., ANNUAL REPORT TO CONGRESS, FISCAL YEAR 1988, at 289, *microformed on* Sup. Docs. No. D1.1:988 (U.S. Gov't Printing Office).

98. *See generally*, PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION, U.S. ARMY, CHEMICAL STOCKPILE DISPOSAL PROGRAM FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT, Vol. 2, Public Comments and Responses (1988) (reflecting concerns that the Army was trying to avoid preparation of site specific NEPA documents, thus many comments from disgruntled citizens and politicians) [hereinafter FPEIS (1988)].

99. Washington Summit Agreement, *supra* note 61, at 934.

100. 50 U.S.C. §1521(c)(1)(A) and (B) (1988).

101. CWC, *supra* note 3, at 17.

102. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §4321 (1988)).

103. Exec. Order No. 11514, 3 C.F.R. 902, (1966-1970 Comp.) *reprinted in* 42 U.S.C. §4321 (1988), amended by Exec. Order No.

11911, 3 C.F.R. 123 (1977 Comp.) *reprinted in* 42 U.S.C. §4321 (1988).

104. Exec. Order No. 11752, 3 C.F.R. 829 (1971-1975 Comp.), *revoked by* Exec. Order No. 12088, 3 C.F.R. 243 (1978 Comp.), *reprinted in* 42 U.S.C. §4321 (1988).

105. Exec. Order No. 12088, 3 C.F.R. 243, at 245 (1978 Comp.), reprinted in 42 U.S.C. §4321 (1988), *amended by* Exec. Order No. 12580, 3 C.F.R. 193 (1987 Comp.), *reprinted in 42 U.S.C. §9615 (1988)*.

106. Federal Facilities Compliance Act or 1992, Pub. L. No. 102-386, 1992 U.S.C.C.A.N. (106 Stat.) 1505 (to be codified at 42 U.S.C. §6961).

107. Memorandum, Chief, Environmental Law Division, U.S. Army Legal Services Agency, Arlington, Virginia, DAJA-EL, to Director, Army Environmental Programs, Office of the Chief of Engineers, subject: Federal Facility Compliance Act, para. 2 (30 Nov. 1992).

108. Dr. Michael West, Senior Staff Member of the House Armed Services Committee, Address Before the Senior Environmental Leadership Conference at The Judge Advocate General's School, Charlottesville, Virginia (Oct. 21, 1992) (transcript available in the Administrative and Civil Law Division, TJAGSA); *see*

generally, H. R. REP. NO. 111, 102nd Cong., 2d Sess. 2-3 (1992) (discussing the purpose and need for the FFCA).

109. DEP'T OF ARMY, U.S. ARMY ENVIRONMENTAL STRATEGY INTO THE 21ST CENTURY (1992) [hereinafter DA ENVT'L STRAT.]; *see also* S. HRG. NO. 102-636, Part 3, *supra* note 90, at 878-881 (prepared statement of Mr. Lewis D. Walker, Dep. Asst. Sec. of Army (Environment, Safety, and Occupational Health)) (presenting an abbreviated discussion of the DA ENVT'L STRAT.).

110. DA ENVT'L STRAT., *id.*, at 6.

111. DEP'T OF ARMY, REG. 200-1, ENVIRONMENTAL PROTECTION AND ENHANCEMENT, para. 6-9a (23 Apr. 1990) [hereinafter AR 200-1].

112. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF LETHAL CHEMICAL STOCKPILE 4-6 (1985) (annual report required by Congress *per* 50 U.S.C. §1521(g) (1988)) [hereinafter DA STATUS REP. 1985].

113. *Id.*, at 6.

114. U.S. ARMY CORPS OF ENGINEERS, JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM (JACADS) FINAL ENVIRONMENTAL IMPACT STATEMENT (1983) [hereinafter JACADS FEIS].

115. *Id.*, at 1.

116. Rouse, *supra* note 85, at 41.

117. Act of Sept. 29, 1988, Div. A, Title I, §118(b), Pub. L.

No. 100-456, 102 Stat. 1934 (1988) (codified at 50 U.S.C. §1521(k) (1988).

118. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 2 (1986) [hereinafter DA STATUS REP.1986]; *see also* H.A.S.C. NO. 36, Title I, 99th Cong., 2d Sess. 1030 (1986) (statement of Amoretta Hoeber, Deputy Undersecretary, Department of the Army) (responding to a question from Rep. Holt and noting that the full plan would soon be provided to Congress).

119. DEP'T OF ARMY, PROGRAM EXECUTIVE OFFICER--PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION, CHEMICAL STOCKPILE DISPOSAL PROGRAM, FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 1-7 (1988) [hereinafter FPEIS 1988].

120. DA STATUS REP. 1986, *supra* note 118, at 2 (required by 50 U.S.C. §1521(e) (1988)).

121. *Id.*, at 4-6.

122. *See generally*, H.A.S.C. NO. 99-45, *supra* note 91.

123. Kentuckians met with some success with enactment of Pub. L. No. 99-661, §153, 100 Stat. 3836 (1986), enacted November 14, 1986; however, this provision has not been published in 50 U.S.C . §1521 (1988) or its supplements. This provision ostensibly limits future operations at LBAD as follows:

> (a) PROHIBITION ON SHIPMENTS TO DEPOT.--No chemical weapons, agents, or components used in chemical weapons

may be shipped to Lexington-Bluegrass Depot in Richmond, Kentucky, for any purpose, including disposal.

(b) PROHIBITION ON FUTURE USE OF DEPOT.--After disposal of the chemical weapons stockpile stored at the Lexington-Bluegrass Depot, as required by section 1412 of the Department of Defense Authorization Act, 1986 (Public Law 99-145), the depot may not be used for assembly, construction, testing, storage, or disposal of any chemical or biological weapon.

(c) WAIVER AUTHORITY.--The Secretary of Defense may waive the provisions of subsection (a) or (b) if the Secretary determines that such a waiver is in the national security interest of the United States.

124. Act of Dec. 4, 1987, Div. A., Title I, §125, Pub. L. No. 100-180, 101 Stat. 1043 (1987).

125. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 2-3 (1987) (discussing the concept plan supplement provided in response to Defense Authorization Act for Fiscal Year 1987, Pub. L. No. 99-661, §154, 100 Stat. 3836 (1986)) [hereinafter DA STATUS REP. 1987].

126. *Id.*, at 4-5 (detailing the thirteen studies: (1) Improved Risk Analysis of the Continued Storage of Chemical Munitions; Risk Analysis of the Disposal of Chemical Munitions at National

or Regional Sites; and Risk Analysis of the On-site Disposal of Chemical Munitions; (2) Upgraded Transportation of Chemical Agents and Munitions: A Concept Plan; (3) Improved Chemical Munitions Packaging Studies; (4) Upgraded Emergency Response Concept Plan for the Chemical Stockpile Disposal Program; (5) Additional Details for Chemical Stockpile Disposal Program Monitoring Concept Study; (6) Mitigation of Public Safety Risks of the Chemical Stockpile Disposal Program; (7) New Study for Transportation of Chemical Munitions at Reduced Temperature; (8) Compilation of Chemical Agent and Munition Disposal: Summary of the U.S. Army's Experience; (9) Chemical Weapons Movement History; (10) New Study on Evaluation of Multiple Air Quality Impacts, Edgewood Area, Aberdeen Proving Ground; (11) New Study of Analysis of the Vulnerability of Chemical Stockpile Disposal Alternatives to Sabotage or Terrorism (classified); (12) Revised Risk Analysis Supporting the Chemical Stockpile Disposal Program (CSDP) and Risk Analysis Supporting the Final Environmental Impact Statement for the Chemical Stockpile Disposal Program (CSDP); and (13) New Methodology for Selecting the Environmentally Preferred Alternative for the Chemical Stockpile Disposal Program).

127. Pub. L. No. 100-180, §125(b), *supra* note 123.

128. DA STATUS REP. 1987, *supra* note 125, at 5.

129. DA STATUS REP. 1986, *supra* note 118, at 4 (a RCRA permit application for each on-site facility, one for each regional plant at ANAD and TEAD, and one for a single national facility at TEAD); *see also*, H.A.S.C. NO. 60, 100th Cong., 2d Sess. 13-14 (1988) (statement of Brig. Gen. David Nydum, Program Manager for Chem. Demil. Program) (briefing the committee on the ROD and status of the program).

130. DA STATUS REP. 1987, *supra* note 125, at 5.

131. *Id.* (Note that the three sites with the smallest quantities stored are APG, Maryland, LBAD, Kentucky, and the Newport Army Ammunition Plant (NAAP), Indiana; further, these three sites have expressed the most vocal opposition.)

132. *Id.*

133. DEP'T OF ARMY, PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION, *RCRA Hazardous Waste Permit Application for the DA APG Chemical Stockpile Disposal System*, Vol V, at K-1-2 (1992); MD. REGS. CODE tit. 26 §13.07 (19__).

134. DA STATUS REP. 1987, *supra* note 125, at 4-9.

135. *Id.*, at 5.

136. *See generally*, DEBORAH MCMANN (Chairperson of the Edgewood Area Steering Committee), COMMUNITY REVIEW SUPPORT STUDY: ABERDEEN AREA (Oct. 1987); C. HEISER (Director, Newport Study Group,

Concerned Citizens of Vermillion, Parke, Vigo, Fountain, and Tippecanoe Counties), [NAAD] COMMUNITY REVIEW OF FINAL REPORT: DISPOSAL OF TON CONTAINERS OF VX (Oct. 1987); UMATILLA COUNTY SOIL AND WATER CONSERVATION DISTRICT, EVALUATION OF THE DRAFT PEIS FOR THE DESTRUCTION OF CHEMICAL MUNITIONS STORED AT UMAD AND OTHER ARMY FACILITIES (Oct. 1987); and ORIS BLACKWELL (Principal Investigator for the Kentucky Community Study Group), REPORT OF THE KENTUCKY COMMUNITY STUDY GROUP (Nov. 1987) [hereinafter APG COMM. REV.; NAAP COMM. REV.; UMDA COMM. REV.; AND LBAD COMM. REV.] (all reports are available at the Technical Information Center (T.I.C.), Bldg. #E-4517, Edgewood Area APG, MD); *see also* S.A. CARNES, *Disposing of Chemical Weapons: A Desired End in Search of an Acceptable Means*, 11 ENVTL. PROF.279-290 (1989) (describing "unconventional" public participation processes related to NEPA compliance efforts of the Chemical Stockpile Disposal Program).

137. LBAD COMM. REV, *id.*, at 68.

138. NAAP COMMUNITY REVIEW, *supra* note 136 (regrettably, the pages of this report are not numbered, but the referenced material appears near the end of Section I. INTRODUCTION AND RECOMMENDATIONS).

139. APG COMMUNITY REVIEW, *supra* note 136, at 1-6 and 1-7.

140. UMDA COMMUNITY REVIEW, *supra* note 136, at 7-5 and 7-6.

141. *Dep't of Def. Approp. for 1988 Hearings Before a Subcomm.*

of the Comm. on Approp. House of Representatives, Part 5, 100th Cong., 1st Sess. 15 (1987) (statement of Mr. Ambrose) [hereinafter *DoD Approp. Hearings* (1987)].

142. *See generally*, H.A.S.C. NO. 5, Title I, 100th Cong., 1st Sess. 49-79 (1988) (representatives from Alabama, Kentucky, Maryland and Utah echoing safety and environmental concerns of their constituents).

143. DA STATUS REP. 1987, *supra* note 125, at 13; *see also*, *DoD Approp. Hearings* (1987), at 47 (answering questions submitted for the record concerning the EIS).

144. ROD CSDP 1988, *supra* note 6; *see generally*, *Army Formally Backs On-Site Incineration to Destroy Lethal Chemical Weapons Stockpile*, ENV'T REP. (BNA), Feb. 26, 1988, at 2229 (discussing the ROD).

145. H.A.S.C. NO. 100-60 (1988), *supra* note 129, at 1-3 (opening statement of Subcommittee Chairman Bill Nichols (Alabama) and opening statement of minority ranking member Rep. Larry J. Hopkins (Kentucky)).

146. DEP'T OF ARMY ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 5 (1988) [hereinafter DA STATUS REP. 1988]. (Note: a complete copy of the plan is available through the T.I.C. at APG, Maryland.)

147. H.A.S.C. No. 36, Title I, 99th Cong., 2d Sess. 999 (1987) (statement of Dr. Thomas J. Welch, Dep. Asst. to the Sec. of Def., responding to question of Rep. Holt).

148. *Dep't of Def. Approp. for 1989 Hearings Before a Subcomm. of the Comm. on Approp. House of Representatives*, Part 5, 100th Cong., 2d Sess. 35-37 (1988) (questions posed to Mr. John W. Shannon, Asst. Sec. of the Army for Installations and Logistics, by Rep. McDade) [hereinafter *DoD Approp. Hearing 1989*, Part 5 (1988)].

149. *Id.*, at 44-45 (statement of Rep. Myers during his questioning of Mr. Shannon).

150. Act of Sept. 29, 1988, Title I, §118, Pub. L. No. 100-456, 102 Stat. 1934 (1988) (amending 50 U.S.C. §1521 by extending the deadline; the other significant amendment concerned a requirement for prove-out testing at JACADS to be completed and certified to Congress before the Army proceeds with prove-out tests at CONUS sites; however, TEAD was exempted) [hereinafter Pub. L. No. 100-456].

151. DA STATUS REP. 1988, *supra* note 145, at 3. (The NRC subsequently formed the Committee on Review and Evaluation of the Army Chemical Stockpile Disposal Program, chaired by Dr. Norton Zinder of Rockefeller University in New York. Other committee

members are listed in *DoD Approp. Hearings 1989*, Part 5 (1988), *supra* note 148, at 48.)

152. H. R. CONF. REP. NO. 989, 100th Cong., 2d Sess. 297 (1988).

153. DA STATUS REP. 1988, *supra* note 145, at 9.

154. *DoD Approp. Hearing 1989*, Part 5 (1988), *supra* note 148, at 54.

155. DA STATUS REP. 1988, *supra* note 145, at 10.

156. *Id.*, at 9.

157. *DoD Approp. Hearing 1989*, Part 5 (1988), *supra* note 148, at 49-52 (further discussion *infra* pp. 27-31, in an exchange between Rep. Chappel, Mr. Shannon, and Brig. Gen. Nydum).

158. DA STATUS REP. 1988, *supra* note 145, at 11; H.A.S.C. NO. 100-60 (1988), *supra* note 129, at 19-20 (testimony of Brig. Gen. Nydum).

159. DA STATUS REP. 1988, *supra* note 145, at 6.

160. *Id.*, at 5; *DoD Approp. Hearing 1989*, Part 5 (1988), *supra* note 148, at 53.

161. H.A.S.C. NO. 100-60 (1988), *supra* note 129, at 28-29 (exchange between Rep. Nichols and Mr. Shannon resolved by Mr. Shannon's unequivocal promise to make good on Mr. Lewis D. Walker's previous promise in testimony elicited before the same

committee in July 1986, *see* H.A.S.C. No. 99-45 (1986), *supra* note 91, at 35.)

162. DA STATUS REP. 1988, *supra* note 145, at 6;DEP'T OF ARMY, TOOELE ARMY DEPOT, *RCRA Hazardous Waste Permit Application for the DA TEAD Chem. Stockpile Disposal System* (Sept. 1988) (available for review at T.I.C., APG, MD).

163. DA STATUS REP. 1988, *supra* note 145, at 6; DEP'T OF ARMY, TOOELE ARMY DEPOT, *Notice of Intent for the DA TEAD Chem. Stockpile Disposal System* (Sept. 1988) (available for review at T.I.C., APG, MD).

164. *DoD Approp. Hearing 1989*, Part 5 (1988), *supra* note 148, at 45.

165. H.A.S.C. No. 69, Title I, 100th Cong., 2d Sess. 136 (1988) (prepared statement of Dr. Thomas J. Welch, Dep. Asst. to the Sec. Def.).

166. *DoD Approp. Hearing 1989*, Part 5 (1988), *supra* note 148, at 44.

167. DA STATUS REP. 1988, *supra* note 145, at 7.

168. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 4-5 (1988) [hereinafter DA STATUS REP. 1989]; *see generally*, DEP'T OF ARMY, PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION,

DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS AT TOOELE ARMY DEPOT, TOOELE, UTAH, FINAL ENVIRONMENTAL IMPACT STATEMENT (1989).

169. Record of Decision, Chemical Stockpile Disposal Program, Tooele Army Depot, 54 Fed. Reg. 37,017 (1989).

170. DA STATUS REP. 1989, *supra* note 168, at 10.

171. *Id.*

172. *Dep't of Def. Approp. for 1990 Hearings Before Subcomm. of the Comm. on Approp. House of Representatives*, Part 5, 101st Cong., 1st Sess. 53-55 (1989) (questions from Rep. Dicks, addressed to Dr. Welch and Brig. Gen. Nydum) [hereinafter *DoD Approp. Hearing 1990*, Part 5 (1989)].

173. DA STATUS REP. 1989, *supra* note 168, Executive Summary at ii and full text at 10.

174. *Id.*, at 8-9.

175. *DoD Approp. Hearing 1990*, Part 5 (1989), *supra* note 172, at 49-51 (exchange between Rep. McDade and Mr. Owen, with a note inserted in the record at 51, detailing current cost estimates at $321 million to get JACADS operational and $239.6 million to operate and eventually close the facility).

176. Record of Decision, Disposition of Process Wastes from Johnston Atoll Chemical Agent Disposal System (JACADS), 54 Fed. Reg. 53,174 (1989).

177. DA STATUS REP. 1989, *supra* note 168, at 8.

178. *Id.*, at 4.

179. *Id.*, at 5; *DoD Approp. Hearing 1990*, Part 5 (1989), *supra* note 172, at 83 (answering a question submitted for the record concerning construction costs).

180. DA STATUS REP. 1989, *supra* note 168, at 4.

181. *DoD Approp. Hearing 1990*, Part 5 (1989), *supra* note 172, at 78.

182. *Id.*, at 59.

183. DA STATUS REP. 1989, *supra* note 168, at 10.

184. *Id.*, at 3.

185. *DoD Approp. Hearing 1990*, Part 5 (1989), *supra* note 172, at 60 (statement of Subcomm. Chairman Murtha).

186. *Id.*, at 76-78 (answering questions submitted for the record). (Congress did not like the idea of abandoning the only back-up technology to JACADS, especially given the delays and cost increases that started to appear routine.)

187. DA STATUS REP. 1989, *supra* note 168, at 4-5.

188. *Id.*, at 7.

189. Letter from the Hon. Susan Livingstone, Asst. Sec. of Army (IL&E), to the Hon. Les Aspin, Chairman, H.A.S.C., U.S. House of Representatives (Dec. 18, 1990) (filed with the Annual Status Report, available at the T.I.C., APG, MD).

190. *Id.*

191. *See generally, Dep't of Def. Approp. for 1991 Hearings Before Subcomm. of the Comm. on Approp. House of Representatives*, Part 5, 101st Cong., 2d Sess. 328-343 (1990) [hereinafter *DoD Approp. Hearing 1991*, Part 5 (1990)].

192. GAO REP. NO. 90-155, *supra* note 5, at 2.

193. *DoD Approp. Hearing 1991*, Part 5 (1990), *supra* note 191, at 283 (prepared statement of Mrs. Livingstone) (indicating that at the 1986 Tokyo Summit Meeting, then-President Reagan had reached an agreement with German Chancellor Kohl to remove American chemical weapons by 1992; subsequently Chancellor Kohl urged President Bush to accelerate the agreed upon removal).

194. Record of Decision, Johnston Atoll Chemical Agent Disposal System (JACADS)--Second Supplemental Environmental Impact Statement (SSEIS) for the Storage and Ultimate Disposal of the European Chemical Munition Stockpile, 55 Fed. Reg. 29,880 (1990); REUTERS, *Pentagon Certifies Chemical Arms Incinerator on Pacific Atoll*, REUTER LIBR. REP., July 23, 1990, *available in* LEXIS, Nexis

Library, Reuter File (reporting on DoD certification to Congress that Johnston Atoll had adequate storage capacity).

195. GREENPEACE PACIFIC CAMPAIGN, GREENPEACE REVIEW OF JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM (JACADS) DRAFT SECOND SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (1990) *included in* DEP'T OF ARMY, PROG. MGR. FOR CHEM. DEMIL., DISPOSAL OF EUROPEAN STOCKPILE OF CHEMICAL MUNITIONS AT THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM (JACADS), Vol. 2 (public comments) C-15, 107-235 (1990) [hereinafter DISP. EUR. STOCK. SSEIS] (alleging failure to prepare a comprehensive environmental analysis as required by NEPA); PAUL P. ("SKIP") SPAULDING III, SIERRA CLUB LEGAL DEFENSE FUND, TESTIMONY SUBMITTED AT PUBLIC HEARING CONCERNING THE JACADS DRAFT SSEIS (1990), *included in* DISP. EUR. STOCK. SSEIS, Vol. 2, at PH-4, 39-52 (arguing against disposal at JACADS).

196. UPI, *supra* note 88; *DoD Approp. Hearing 1991*, Part 5 (1990), *supra* note 191, at 325 (exchange between Rep. Murtha and Mrs. Livingstone); *see also Greenpeace v. Stone*, *supra* note 88 (motion for restraining order denied).

197. Giff Johnson, *Pacific Church Leaders Condemn U.S. Nerve Gas Plan*, REUTERS, Mar. 24, 1990, *available in* LEXIS, Nexis Library, Reuter File; David Evans, *Chemical Arms Disposal Plans Called Unsafe*, CHI. TRIB., June 17, 1990, at 1, *available in* LEXIS, Nexis Library, Major Papers File (quoting Honolulu resident Marsha

Joyner, "To move highly-toxic nerve gases . . . from white Europe down here to us little brown people amounts to environmental terrorism. If a spill occurs, they can't give us paper towels to wipe up the beach."); Reuters, *USA: Chemical Weapons to be Destroyed in the Pacific*, REUTER TEXTLINE GUARDIAN, July 27, 1990, *available in* LEXIS, Nexis Library, Reuter File (paraphrasing Jon M. Van Dyke, a law professor from Hawaii who asked the Army to explain how it was that they decided it was too dangerous to move munitions on the U.S. mainland, yet they had decided to bring similar munitions all the way from West Germany to Johnston Island?).

198. Wilson de Silva, *Pacific Hails Bush Who Says There Is No Nerve Gas Guarantee*, REUTERS, Oct. 28, 1990, *available in* LEXIS, Nexis Library, Reuter File (concerning a two hour summit meeting with leaders from Papua, New Guinea, Kiribati, Nauru, Figi, the Marshall Islands, Micronesia, Tuvalu, Western Samoa, Tonga, and the Solomon Islands).

199. 137 CONG. REC. S13665, S13691-S13692 (daily ed. Sept. 25, 1991) (statements of Sen. Akaka and Sen Inouye) (addressing prohibition against further shipment of chemical weapons to Johnston Atoll); S. REP. NO. 521, 101st Cong., 2d Sess. 265 (1990); 136 CONG. REC. H13556, H13563 (daily ed. Oct. 24, 1990).

200. H.A.S.C. NO. 46, 101st Cong., 2d Sess. 236-238 (1990) (questions from Rep. Dyson of Maryland, addressed to Mr. Stephen

K. Conver, Asst. Sec. of Army (RD&A), concerning the types of ships used for the retrograde operation and whether a similar operation could be conducted from Edgewood, Maryland to Johnston Atoll).

201. S. HRG. NO. 636, Part 3, (1992) *supra* note 90, at 832 (prepared statement of Mrs. Livingstone) (indicating that as of May 12, 1992, construction of the TEAD incinerator was about 50% complete).

202. Rouse, *supra* note 85, at 78-79 (noting that public support in favor of transportation appears to be significantly less than those opposed to such transportation).

203. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 4 (1990) [hereinafter DA STATUS REP. 1990].

204. Robin Gedye, *Chemical Arms Protest "Bomb" Halts Train*, THE DAILY TELEGRAPH, Sept. 19, 1990, at 9, *available in* LEXIS, Nexis Library, Omni File (discussing an incident in which a fake bomb was actually found on one of the trains, along with an incriptic note from the "Action National-Social Front" which read, "We will make music tomorrow for the Americans.").

205. DA STATUS REP. 1990, *supra* note 202, at 4.

206. H. REP. NO. 665, 101st Cong., 2d Sess. 24 (1990).

207. DA STATUS REP. 1990, *supra* note 202, at 6; DEP'T OF ARMY, PROG.

MGR. CHEM DEMIL. ADDENDUM TO FINAL PHASE I ENVIRONMENTAL REPORT DISPOSAL OF CHEMICAL AGENTS STORED AT ANNISTON ARMY DEPOT ANNISTON, ALABAMA (Feb. 1990) (concluding that on-site disposal remains valid for disposal of chemical agents and munitions stored at ANAD); J.R. KRUMMEL, A.J. POLICASTRO, S.J. OLSHANSKY, AND L.D. MCGINNIS, ENVIRONMENTAL ASSESSMENT AND INFORMATION SCIENCES DIVISION, ARGONNE NATIONAL LABORATORY, CHEMICAL STOCKPILE DISPOSAL PROGRAM: REVIEW AND COMMENT ON THE PHASE I ENVIRONMENTAL REPORT FOR THE PINE BLUFF ARSENAL, PINE BLUFF, ARKANSAS (Oct. 1990) (finding that the FPEIS is still valid, but also recommending that site-specific data on water, ecological, socioeconomic, and cultural resources, and emergency planning and preparedness be considered explicitly in the site-specific EIS decision-making process); DEP'T OF ARMY, PROG. MGR. FOR CHEM. DEMIL., DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS STORED AT PINE BLUFF ARSENAL, PINE BLUFF, ARKANSAS, FINAL PHASE I ENVIRONMENTAL REPORT (May 1990) (conducting a technology status review and concluding that the preferred alternative from the FPEIS is still valid); DEP'T OF ARMY, PROG. MGR. CHEM. DEMIL., DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS STORED AT UMATILLA DEPORT ACTIVITY, HERMISTON, OREGON (Feb. 1990) (concluding that there are no apparent impediments to implementation of the CSDP at UMDA).

208. H. R. REP. NO. 665 (1990), *supra* note 205, at 338-341.

209. Pub. L. No. 99-145, §1412(c)(2), *supra* note 84 (providing in pertinent part as follows: "Facilities constructed to carry out this section may not be used for any other purpose . . . such

facilities shall be cleaned, dismantled, and disposed of in accordance with applicable laws and regulations.").

210. *DoD Approp. Hearing 1991*, Part 5 (1990), *supra* note 191, at 338-341.

211. DA STATUS REP 1990, *supra* note 202, at 10.

212. *DoD Approp. Hearing 1991*, Part 5 (1990), *supra* note 191, at 346 (questions and answers established a need for additional funds to get the program back on track).

213. S. REP. NO. 410, 101st Cong., 2d Sess. (1990); *see also* H. R. REP. 665, 101st Cong., 2d Sess. 24 (1990) (recommending that the Sec. of the Army use $6 million of the funds authorized for fiscal year 1991 to complete the development of cryofracture).

214.

215. DA STATUS REP. 1990, *supra* note 202, at 12.

216. *DoD Approp. Hearing 1991*, Part 5 (1990), *supra* note 191, at 328-377 (testimony of Mrs. Livingstone and Col. (P) Walter Busbee, the new Prog. Mgr. Chem. Demil.).

217. *Id.*, at 337-338. (For a better understanding of the revised program schedule, see Appendix I *infra*, which sets forth milestones for the program.)

218. 50 U.S.C. §1521(c) (1988).

219. 50 U.S.C. §1521 (1988 & Supp. II 1991).

220. Simon Tisdale, *USA: Army at Bay Over Incinerating Nerve Gas*, REUTER TEXTLINE GUARDIAN, May 8, 1990, *available in* LEXIS, Nexis Library, Reuter File (intimating that local activists in Kentucky are preparing to litigate Army plans to build a nerve gas incinerator in the heart of Bluegrass Country).

221. *See generally*, THE MITRE CORP., CENTER FOR CIVIL SYSTEMS, ENGINEERING ANALYSIS FOR FUTURE USE OF CHEMICAL AGENT DEMILITARIZATION PLANTS: FEASIBILITY AND DESIRABILITY (1991).

222. DEP'T OF ARMY, ANNUAL STATUS REPORT ON THE DISPOSAL OF THE LETHAL CHEMICAL STOCKPILE 9 (1991) [hereinafter DA STATUS REP. 1991].

223. GAO REP. NO. 90-155, *supra* note 5, at 34-35 (highlighting possible future uses at APG, one of the sites being pressed by strong NIMBY opposition).

224. *Id.*, at 34.

225. *Dep't of Def. Approp. for 1992 Hearings Before a Subcomm. of the Comm. on Approp. House of Representatives*, Part 5, 102nd Cong., 1st Sess. 229 (1991) (answering a question submitted for the record by indicating that DoD does not intend to request such an amendment and will abide by the existing legislative mandate to dismantle the facilities upon completion of disposal operations); BOWMAN, *supra* note 44, at CRS-6.

226. DA STATUS REP. 1991, *supra* note 222, at 12 (specifying that at the end of OVT Phase I in February, 7,565 rockets, 77,171 pounds of GB agent, and approximately 81,600 gallons of spent decontamination solution had been safely destroyed); *DA Approp. Hearing 1992*, Part 5 (1991), *supra* note 225, at 198-199 (prepared statement of Mrs. Livingstone).

227. *Id.*

228. *Id.*

229. *DoD Approp. Hearing 1992*, Part 5 (1991), *supra*, note 225, at 210-213 (exchange between Rep. Murtha and Mrs. Livingstone), and further at 241-247 (questions submitted for the record which emphasize Congressional frustration with delays and cost increases); *see also* S. REP. NO. 113, 102nd Cong., 1st Sess. 84 (1991) (urging the Army to ensure that all required design changes are incorporated before construction contracts are entered into for CONUS facilities pending construction).

230. U.S. CONGRESS, GENERAL ACCOUNTING OFFICE, Chemical Weapons Stockpile Destruction Cost Growth and Schedule Slippages are Likely to Continue, GAO/NSIAD-92-18, at 4 (1991) [hereinafter GAO REP. NO. 92-18].

231. *Id.*, at 24; *DoD Approp. Hearing 1992*, Part 5 (1991), *supra* note 225, at 201-202, 212-217, and 238-241.

232. *DoD Approp. Hearing 1992*, Part 5 (1991), *supra* note 225, at 212-213.

233. DA STATUS REP. 1991, *supra* note 222, at 23.

234. *Id.*, Executive Summary, at iii-iv.

235. *Id.*, at 4-5.

236. Record of Decision, Chemical Stockpile Disposal Program at Anniston Army Depot, Alabama, 56 Fed. Reg. 34,055 (1991).

237. *See generally*, DEP'T OF ARMY, PROG. MGR. FOR CHEM. DEMIL. DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS STORED AT ANNISTON ARMY DEPOT, ANNISTON, ALABAMA, FINAL ENVIRONMENTAL IMPACT STATEMENT (1991).

238. *See generally*, DEP'T OF ARMY, PROG. MGR. FOR CHEM. DEMIL. DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS STORED AT UMATILLA DEPOT ACTIVITY, HERMISTON, OREGON, DRAFT FINAL ENVIRONMENTAL IMPACT STATEMENT (1991).

239. DA STAT. REP. 1991, *supra* note 222, at 6.

240. Act of Dec. 5, 1991, Div. A, Title I, §151, Pub. L. No. 102-190, 105 Stat. 1290 (1991) (amending 50 U.S.C. §1521(c)(3)).

241. H. CONF. REP. NO. 311, 102nd Cong., 1st Sess. 411 (1991).

242. 50 U.S.C.A. §1521(b)(5) (West Supp. 1992).

243. S. REP. NO. 102-113, *supra* note 229, at 83-84.

244. *DoD Approp. Hearing 1992*, Part 5 (1991), *supra* note 225, at 235-235.

245. 138 CONG. REC. E2882 (daily ed. Oct. 2, 1992) (statement of Rep. Dante B. Fascell, Florida); Randall Palmer, *Destruction of Iraqi Mustard Gas Begins*, REUTER LIBR. REP., Nov. 9, 1992, *available in* LEXIS, Nexis Library, Reuter File; *see also*, DEP'T OF DEF., REPORT TO CONGRESS ON THE CONDUCT OF THE PERSIAN GULF WAR--APPENDIX ON THE ROLE OF THE LAW OF WAR, 31 I.L.M. 612 (1992), at 635 (discussing Iraq's deployment of chemical weapons and previous use of chemical and biological weapons in violation of international law).

246. DEP'T OF ARMY, U.S. ARMY CHEMICAL MATERIEL DESTRUCTION AGENCY, ANNUAL STATUS REPORT ON THE DISPOSAL OF LETHAL CHEMICAL STOCKPILE, Executive Summary, iii (1992) [hereinafter DA STATUS REP. 1992].

247. "In last year's report, the Committee expresses its belief that the segmentation of responsibility within the Executive Branch may cause duplication of effort, inefficiency, undue costs, and compromises to safety and the environment. The Program Manager for Chemical Demilitarization (PMCD) currently has responsibility for demilitarizing only those items which were identified in 1986 as part of the Chemical Stockpile Disposal Program (CSDP). Not included are a host of lethal wastes from past disposal efforts, unserviceable munitions, chemically contaminated containers, chemical production facilities,

subsequently located chemical munitions, sites known to contain significant concentrations of burried chemical weapons and waste, and binary weapons and components.

* * *

The Committee believes that recent developments in chemical warfare arms control make the creation of a single organization even more urgent than was the case last year. The current fragmented approach makes no sense. The Secretary of Defense is *directed* [emphasis added] to move vigorously on last years direction and report on actions taken to comply with this direction by September 30, 1991." H.R. REP. NO. 102-95, *supra* note 83. (Although efforts to implement this change are mentioned in DA STATUS REP. 1991, at 25, the new agency was not officially created until 1992.)

248. DA STATUS REP 1992, *supra* note 246, Executive Summary, at iii (Note: the results of various RCRA trial burns and TSCA demonstration data are too technical for inclusion in this study, but interested individuals may access all CSDP unclassified technical data through the Technical Information Center (T.I.C.) sponsored by the U.S. Army Chemical Materiel Destruction Agency (USACMDA), located in Bldg. #E-4157, Edgewood Area, APG, Maryland, phone (410) 671-4901); *see generally*, S. HRG. NO. 102-636, Part 3, *supra* note 90, at 827-831 (prepared statement of Mrs. Livingstone) (discussing JACADS and OVT).

249. *Id.*, at 17; S. HRG. NO. 102-636, Part 3 (1992), *supra* note 90, at 831-832 (prepared statement of Mrs. Livingstone) (discussing construction problems at TEAD)

250. H.A.S.C. NO. 42, 102nd Cong., 2d Sess. 47-48 (1992) (testimony of Mr. Conver, Asst. Sec. of Army (RD&A) (providing his frank assessment, both as an administrator and as a former Member of Congress, about how the CSDP got into trouble).

251. *Id.*, at 48-49 (comments of Rep. Hopkins to the effect that, yes we need to get rid of chemical weapons, but please take them somewhere else; don't impose on the citizens of Richmond).

252. DOD AUTH. ACT FY 93, *supra* note 83; H.R. REP. NO. 327, 102nd Cong., 2d Sess. 90-92 (1992).

253. Act of Oct. 23, 1992, Div. A, Title I, §§ 171-180, 1992 U.S.C.C.A.N. (106 Stat.) 2315, at 2341-2347.

254. H.R. CONF. REP NO. 966, 102nd Cong., 2d Sess. 567 (1992) (further specifying that any alternative technology selected must be able to achieve the new stockpile elimination deadline of Dec. 31, 2004).

255. DEP'T OF ARMY, PROG. MGR. FOR CHEM. DEMIL., PUBLIC AFFAIRS OFFICE, THE UNITED STATES CHEMICAL STOCKPILE DISPOSAL PROGRAM (informational pamphlet, not dated).

256. H.R. REP. NO. 627, 102nd Cong., 2d Sess. 228-229 (1992).

257. *Id.*, at 229.

258. S. REP. NO. 408, 102nd Cong., 2d Sess. 333 (1992) (reflecting Sen. Inouye's South Pacific bias).

259. *Id.*, at 332.

260. H.R. REP. NO. 102-627, *supra* note 256, at 229.

261. S. REP. NO. 102-408, *supra* note 258, at 330; S. HRG. NO. 102-636, Part 3, *supra* note 90, at 837-839 and 854-855.

262. H.R. REP. NO. 102-627, *supra* note 256, at 229.

263. 42 U.S.C. §§ 4321-4370a, *supra* note 102; *see also* DEP'T OF ARMY, REG. 200-2, ENVIRONMENTAL QUALITY, ENVIRONMENTAL EFFECTS OF ARMY ACTIONS, Appendix C (23 Dec. 1988) [hereinafter AR 200-2].

264. 40 C.F.R. §§1500-1508 (1978).

265. AR 200-2, *supra* note 263.

266. H.A.S.C. NO. 99-45, *supra* note 91, at 34-41 (testimony of Mr. Lewis D. Walker).

267. Pub. L. No. 99-145, *supra* note 84.

268. H.A.S.C. NO. 99-45, *supra* note 91, at 25-26 (correspondence from Mr. A. Alan Hill, Ch. C.E.Q., to Mrs. Amoretta M. Hoeber, Dep. Undersec. of Army, dated June 2, 1986, reprinted and

included in the record as Attachment A to Mrs. Hoeber's prepared statement).

269. H.A.S.C. No. 99-45, *supra* note 91, at 41-46 (testimony of Mr. Hill).

270. 40 C.F.R. §1508.25 (1978).

271. 40 C.F.R. §1501.7 (1978)

272. *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519 (1978) *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989).

273. *Greenpeace USA v. Stone*, *supra* note 88.

274. *Kleppe v. Sierra Club*, 427 U.S. 390 (1976) (The Supreme Court counseled courts not to interfere with an agency's proceedings before the agency renders its decision.)

275. FPEIS (1988), *supra* note 98, Vol. 1, at 1-7 thru 1-8; *see generally* Rouse, *supra* note 85, at 30-34.

276. 42 U.S.C. §§ 6901-6991h (1988 & Supp. II 1990), *as amended by* Act of Oct. 6, 1992, Pub. L. No. 102-386, 1992 U.S.C.C.A.N. (106 Stat.) 1505.

277. 42 U.S.C. §6926; 40 C.F.R. Parts 271 and 271 ( ).

278. 42 U.S.C. 6961, *as amended*, *supra* note 106.

279. GAO REO. NO. 90-155, *supra* note 5, at 22 (including a concise summary of the permitting process); *see generally*, U.S. CONGRESS,GENERAL ACCOUNTING OFFICE, HAZARDOUS WASTE INCINERATOR OPERATING REGULATIONS AND RELATED AIR EMISSION STANDARDS, GAO/RCED-92-21 (1991).

280. DA STATUS REP. 1986, *supra* note 129, at 4 (Note: copies of all permit applications are available for review at the T.I.C., APG, Maryland.)

281. Permits issued for CAMDS research and the reverse assembly incinerator at TEAD, Utah; and for the BZ disposal facility at PBA Arkansas. *See generally*, S. HRG. NO. 102-636, Part 3, *supra* note 90, at 826 (prepared statement of Mrs. Livingstone) (indicating that Utah expedited review for TEAD's reverse assembly incinerator, while other states have let applications languish for years).

282. GAO REP. NO. 90-155, *supra* note 5, at 23; *see generally*, 42 U.S.C. §6925; 40 C.F.R. Parts 264 and 270 ( ).

283. Pub. L. No. 102-190, §151, *supra* note 240.

284. U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, DISPOSAL OF CHEMICAL WEAPONS: ALTERNATE TECHNOLOGIES--BACKGROUND PAPER, OTA-BP-0-95, at 4-5 (1992) [hereinafter OTA REP. JUNE 1992].

285. KY. REV. STAT. ANN. §224.46-520(1)(a) (Baldwin 1992), *available in* LEXIS, Nexis Library, KYCode File.

286. OTA REP. JUNE 1992, *supra* note 284.

287. 42 U.S.C. §6929

288. KY. REV. STAT. ANN. §224.40-310(7) (Michie 1992) (legislative history includes a reference to an Attorney General's Opinion to the effect that even if all state requirements are met, the local governing court or other government body may prevent the state from issuing a permit).

289. IND. CODE ANN. §13-7-8.5-13 (Burns 1992).

290. MD. H.B. NO.290.2 1443, An Act Concerning Chemical Warfare Materials and Chemical Weapons, *available in* LEXIS, States Library, Mdtrck File.

291. COLO. REV. STAT. §25-15-502(3)(c) (1992).

292. COLO. H.B. NO. 1156 (1993), *available in* LEXIS, States Library, COtrck File.

293. *DoD Approp. Hearing 1992*, Part 5 (1991), *supra* note 225, at 212-213, discussed further *infra*, note 232.

294. OTA REP. JUNE 1992, *supra* note 284, at 5.

295. 42 U.S.C. §7401-7672q, *as amended* (1988 & Supp. II 1990).

296. 40 C.F.R. Parts 70 and 71 ( ).

297. 42 U.S.C. §7418 (Supp. II 1988).

298. *See generally* 42 U.S.C. §7412 (air toxics) and §7661a (state permitting programs).

299. MD. REGS. CODE tit. 26 §13.07 ( ).

300. Telephone interview with Ms. Madeline Creden, Counsel to the Senate Armed Services Committee (Mar. 8, 1993).

301. DA STATUS REP. 1992, *supra* note 246, at 27; S. HRG. NO. 102-636, *supra* note 90, at 840.

302. GREENPEACE ALT. TECH. (1991), *supra* note 7.

303. OTA REP. JUNE 1992, *supra* note 284.

304. GREENPEACE ALT. TECH. (1991), *supra* note 7, at Executive Summary, Table, ix.

305. *Id.*, at vii.

306. *Id.*, at xi.

307. *Id.*

308. OTA REP JUNE 1992, *supra* note 284, at 25.

309. *Id.*, at 6 and 25.

310. *Id.*, at 6.

311. *Id.*, Chapter 3, at 25-28, further discussion in Appendix A, at 31-35 (chemical neutralization, supercritical water oxidation,

steam gasification, and plasma arc), and Appendix B, at 36-38 (risk assessment for off-site transportation).

312. *Id.*, Appendix C, at 39 (Note: the continuing narrative of workshop discussions, at 40, mentions in passsing what I believe lies at the heart of the NIMBY controversy, i.e. "A common nontechnical community position is that the technical community does not have a right to impose *any* [emphasis added] risks on th affected public. The problem is that the U.S. public is unwilling to accept any risk that they did not consent to.")

313. LETTER REPORT OF THE COMMITTEE ON REVIEW AND EVALUATION OF THE ARMY CHEMICAL STOCKPILE DISPOSAL PROGRAM. REVIEW OF CHOICE AND STATUS OF INCINERATION FOR DESTRUCTION OF THE CHEMICAL STOCKPILE 1 (1992)

314. *Id.*, at 5.

315. Debbie Jackson, *AEA Seeks to Commercialize Process*, CHEM. WEEK, Jan. 6-13, 1993, at 14, *available in* LEXIS, Nexis Library, Omni File.

316. Roger Highfield and Robert Reid, *Dounreay Team Set to Clean Up On Toxins*, DAILY TELEGRAPH, Dec. 31, 1992, *available in* LEXIS, Nexis Library, Omni File.

317. 137 CONG. REC. S17,446, S17,455 (daily ed. Nov. 21, 1991) (Sen. Cranston discussing a marketing campaign to destroy chemical munitions via undergraound nuclear explosion); 137 CONG. REC. S16,486, S16,488-90 (daily ed. Nov. 13, 1991) (debate on aid

to the former-Soviet Union, for defense conversion and demilitarization); *see generally*, Douglas A. Levy, *Nuclear Destruction of Chemical Weapons Might Work, Analysts Say*, U.P.I., Dec. 16, 1992, *available in* LEXIS, Nexis Library, U.P.I. File (quoting Stephen Black, public policy expert, Univ. of Pitt., and Benoit Morel, physicist, Carnegie Mellon Univ.).

318. *Quoted in 137* CONG. REC. S17455 (daily ed. Nov. 21 1991).

319. *See generally*, Brian Bremner (Washington), James E. Ellis (Chicago), Deborah Stead (Moscow), and Rood Lewald (Bonn), *If You Can't Build Weapons, Destroy 'Em*, BUS. WEEK, Mar. 9, 1992, at 86 (describing a megaton market estimated at $100 billion in the U.S. alone, for dismantling of weapons and environmental clean-up).

320. *Chemical Arms Destruction Race Is On*, THE INDEPENDENT, May 26, 1991, at 8, *available in* LEXIS, Nexis Library, Independent File.

321. Pub. L. No. 102-484, §174, *supra* note 252, and *infra* 59.

322. Editorial, *Burn Chemical Agents*, CHRIST. SCI. MON., May 2, 1991, at 20 , *available in* LEXIS, Nexis Library, Major Papers File.

323. Telephone conversation with Ms. Creden, *supra* note 300.

324. 42 U.S.C. §6961, *as amended by* Pub. L. No. 102-386, §102, 1992 U.S.C.C.A.N. (106 Stat.) 1505.

325. 42 U.S.C. §7418(b) (1988 & Supp. II 1990).

326. *Id.*

327. S. HRG. NO. 102-636, *supra*, note 90, at 817.

328. HABER, *supra* note 12, at 252 (detailing 925 casualties, three dead, during seven months of production and filling operations in 1918, at Edgewood, Maryland).

APPENDIX I

REVISED CHEMICAL DISPOSAL SCHEDULE
(*circa April 24, 1990*)

Location	Start Phase I Review	Start Facility Construction	Start Opns.	End Opns.
JACADS, Pacific	N/A	1986	May 90	Jul 94
TEAD, Utah	Aug 88	Oct 89	Oct 93	Dec 98
Tng. Facility, APG, Maryland	N/A	Jun 89	Nov 90	Sep 96
ANAD, Alabama	Dec 88	Sep 91	Jun 95	Jul 98
UMDA, Oregon	Feb 89	Jun 92	Mar 96	Oct 98
PBA, Arkansas	Apr 89	Jun 92	Mar 96	Nov 98
PUDA, Colorado	Apr 90	Jun 93	Mar 97	Nov 98
NAAP, Indiana	Oct 90	Jun 93	Sep 96	Aug 97
APG, Maryland	Jun 90	Jun 93	Sep 96	Sep 97
LBAD, Kentucky	Jan 91	Jun 93	Mar 97	Aug 98

Note: This schedule does not take into account delays due to major failures or litigation and is dependent on funding support.

Note: Phase I is the review of the programmatic on-site decision for the individual sites after gathering site-specific data. Once the Phase I reports are completed and certified, the site-specific environmental impact statements are developed.

Source: DoD Approp. Hearing 1991, Part 5 (1990), *infra* endnote 191, Table 1, at 286 (included in the prepared statement of the Honorable Susan Livingstone, Assistant Secretary of the Army (Installations, Logistics, and Environment)).

APPENDIX II

REVISED CHEMICAL DISPOSAL SCHEDULE
(*circa April 23, 1991*)

Location	Start Phase I Review	Start Facility Construction	Start Opns.	End Opns.
JACADS, Pacific	N/A	Nov 85	Jun 90	Apr 95
TEAD, Utah	Aug 88	Sep 89	Feb 94	May 99
Tng. Facility, APG, Maryland	N/A	Jun 89	Oct 91	Apr 98
ANAD, Alabama	Dec 88	Aug 92	May 96	Jul 99
UMDA, Oregon	Feb 89	Jan 93	Oct 96	Jun 99
PBA, Arkansas	Apr 89	Jan 93	Oct 96	Jul 99
PUDA, Colorado	Jun 90	Jan 94	Oct 97	Jul 99
LBAD, Kentucky	Apr 91	Jan 94	Oct 97	Apr 99
NAAP, Indiana	Aug 91	Jun 94	Jun 97	May 98
APG, Maryland	Feb 91	Jun 94	Jun 97	Jul 98

Note: This schedule does not take into account delays due to major failures or litigation and is dependent on funding support. It also does not retain any stocks that may be required from the bilateral agreement.

Note: Phase I is the review of the programmatic on-site decision for the individual sites after gathering site-specific data. Once the Phase I reports are completed and certified, the site-specific environmental impact statements are developed.

Source: DoD Approp. Hearing 1992, Part 5 (1991), *infra* endnote 225, Table 1, at 207 (included in the prepared statement of the Honorable Susan Livingstone, Assistant Secretary of the Army (Installations, Logistics, and Environment)).

APPENDIX III

REVISED PROGRAMMATIC CHEMICAL DISPOSAL SCHEDULE
(*circa May 12, 1991*)

Location	Start Facility Construction	Start Proveout	Start Opns.	End Opns.
JACADS, Pacific	Nov 85	Aug 88	Jul 90	Oct 1995
Tng. Facility, APG, Maryland	Jun 89	N/A	Oct 91	Dec 1999
TEAD, Utah	Sep 89	Aug 93	Feb 95	Apr 2000
ANAD, Alabama	Jun 93	Apr 96	Oct 97	Nov 2000
UMDA, Oregon	Jan 94	Nov 96	May 98	Dec 2000
PBA, Arkansas	Jan 94	Sep 96	Mar 98	Nov 2000
LBAD, Kentucky	May 94	Mar 97	Sep 98	Feb 2000
PUDA, Colorado	May 94	Mar 97	Sep 98	May 2000
NAAP, Indiana	Jan 95	Jun 97	Jun 98	Apr 1999
APG, Maryland	Jan 95	Jun 97	Jun 98	Jun 1999

Note: This schedule does not take into account delays due to major failures or litigation and is dependent on funding support.

Source: S. HRG. NO. 102-636, Part 3 (1992), *infra* endnote 90, Table 1, at 843-844 (included in the prepared statement of the Honorable Susan Livingstone, Assistant Secretary of the Army (Installations, Logistics, and Environment)).

APPENDIX IV

PROPOSED LEGISLATION

FEDERAL PREEMPTION FOR PERMITS.

(a) Notwithstanding the waiver of sovereign immunity provisions in Public Law 102-386, the "Federal Facility Compliance Act of 1992," as it amends 42 U.S.C. §6961, of the "Solid Waste Disposal Act" within the "Resource, Conservation, and Recovery Act" (RCRA), and 42 U.S.C. §7418, "the Clean Air Act" (CAA), as amended November 15, 1990, by Public Law 101-549, the U.S. Environmental Protection Agency shall be responsible for the issuance of all required RCRA and CAA permits for chemical weapon demilitarization facilities constructed pursuant to 50 U.S.C. §1521. Affected States and local governments shall be afforded a meaningful opportunity to participate in the drafting of such permits, and shall be afforded certain enforcement authority to conduct compliance inspections and monitor operations in accordance with federal regulations and permit requirements; however, States and local governments are hereby preempted from final decision making with respect to issuance and enforcement of these permits.

(b) Funds authorized by 50 U.S.C. §1521(c)(3) may be used to defray State and local government costs incurred in drafting and enforcing said permits.

(c) This provision does not apply to any permit in effect prior to enactment of this amendment nor to its renewal.